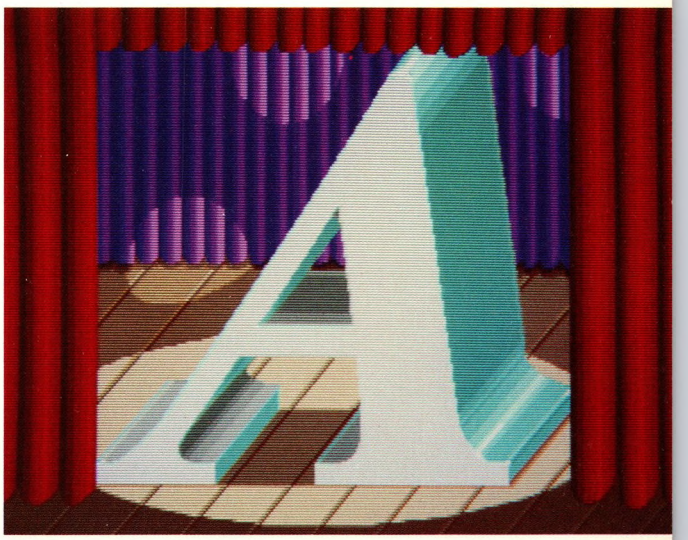
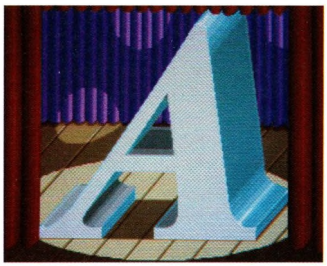
AMIGA™

Introduction to Amiga™



AMIGA

Introduction to Amiga



COPYRIGHT

This manual Copyright © 1985, Commodore-Amiga, Inc., All Rights Reserved. This document may not, in whole or in part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine readable form without prior consent, in writing, from Commodore-Amiga, Inc.

All software described in this manual Copyright © 1985, Commodore-Amiga, Inc., All Rights Reserved. The distribution and sale of these products are intended for the use of the original purchaser only. Lawful users of these programs are hereby licensed only to read the programs, from their media into memory of a computer, solely for the purpose of executing the programs. Duplicating, copying, selling, or otherwise distributing these products is a violation of the law.

DISCLAIMER

COMMODORE-AMIGA, INC. MAKES NO WARRANTIES, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE PROGRAMS DESCRIBED HEREIN, THEIR QUALITY, PERFORMANCE, MERCHANTABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE. THESE PROGRAMS ARE SOLD "AS IS." THE ENTIRE RISK AS TO THEIR QUALITY AND PERFORMANCE IS WITH THE BUYER. SHOULD THE PROGRAMS PROVE DEFECTIVE FOLLOWING THEIR PURCHASE, THE BUYER (AND NOT THE CREATORS OF THE PROGRAMS, COMMODORE-AMIGA, INC., THEIR DISTRIBUTORS, OR THEIR RETAILERS) ASSUMES THE ENTIRE COST OF ALL NECESSSARY DAMAGES. IN NO EVENT WILL COMMODORE-AMIGA, INC., BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN THE PROGRAMS EVEN IF IT HAS BEEN ADVISED OF THE POSSIBLITY OF SUCH DAMAGES. SOME LAWS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF IMPLIED WARRANTIES OR LIABLITIES FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY.

Amiga and Graphicraft are trademarks of Commodore-Amiga, Inc.
Commodore and CBM are registered trademarks of Commodore Electronics Limited.
Alphacom is a registered trademark and Alphapro is a trademark of Alphacom, Inc.
Brother is a registered trademark of Brother Industries, Ltd.
Centronics is a registered trademark of Data Computer Corporation.
Diablo is a registered trademark of Xerox Corporation.
Epson is a registered trademark and FX-80, JX-80, and RX-80 are trademarks of Epson America, Inc.
Hayes is a registered trademark of Hayes Microcomputer Products, Inc.
IBM is a registered trademark of International Business Machines Corporation.
Okimate 20 is a trademark of Okidata, a division of Oki America, Inc.
Qume is a registered trademark of and LetterPro 20 is a trademark of Qume Corporation.

WARNING: This equipment has been certified to comply with the limits for a Class B computing device, pursuant to subpart J of Part 15 of FCC rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

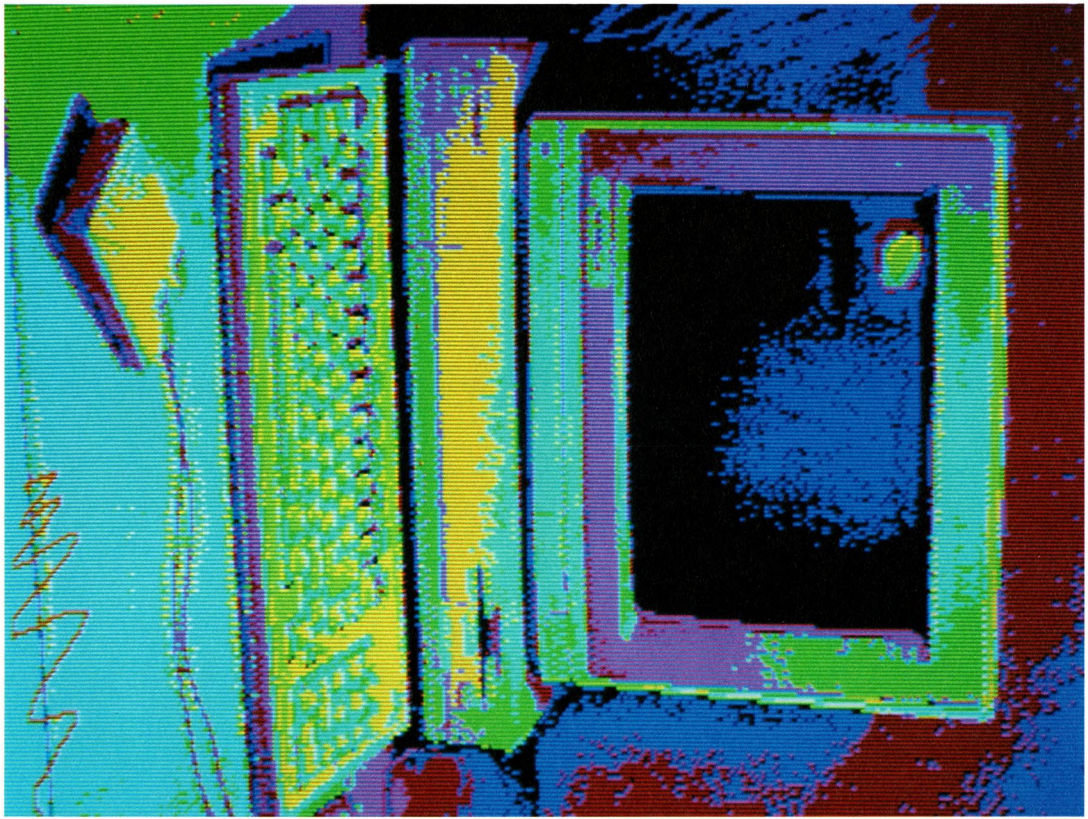
The last four digits of the Amiga serial number indicate the month and year of manufacture.

Printed in U.S.A.

CBM Product Number 372100-01 B 8.12.85

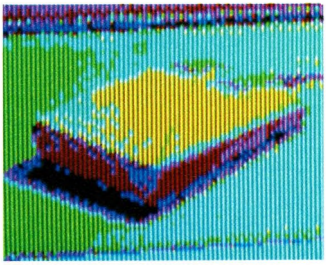
Contents

Chapter 1:	Introducing the Amiga	1-1
Chapter 2:	Setting Up the Amiga	2-1
Chapter 3:	Getting Started	3-1
Chapter 4:	Using the Workbench	4-1
Chapter 5:	Adding to the Amiga	5-1
Chapter 6:	Caring for the Amiga	6-1
Chapter 7:	Reference	7-1
Glossary		G-1
Index		I-1



Chapter 1

Introducing the Amiga



Welcome! You're about to meet an extraordinary personal computer. It's powerful, yet it's easy to learn and use. It's agile: it can work at several tasks all at the same time. It's colorful and musical. In this manual, you'll meet the Amiga and learn how you can use it both at work and at play.

About This Manual

This manual is for everyone who uses an Amiga. Chapter 2, "Setting Up the Amiga," shows how to put your Amiga together. If you're using an Amiga for the first time, read Chapter 3, "Getting Started," to learn the basics.

Chapter 4, "Using the Workbench," describes many of the important tasks you perform when using an Amiga.

Chapter 5, "Adding to the Amiga," describes printers, extra memory, and other add-ons available for your Amiga.

Chapter 6, "Caring for the Amiga," tells how to keep your Amiga in good working order.

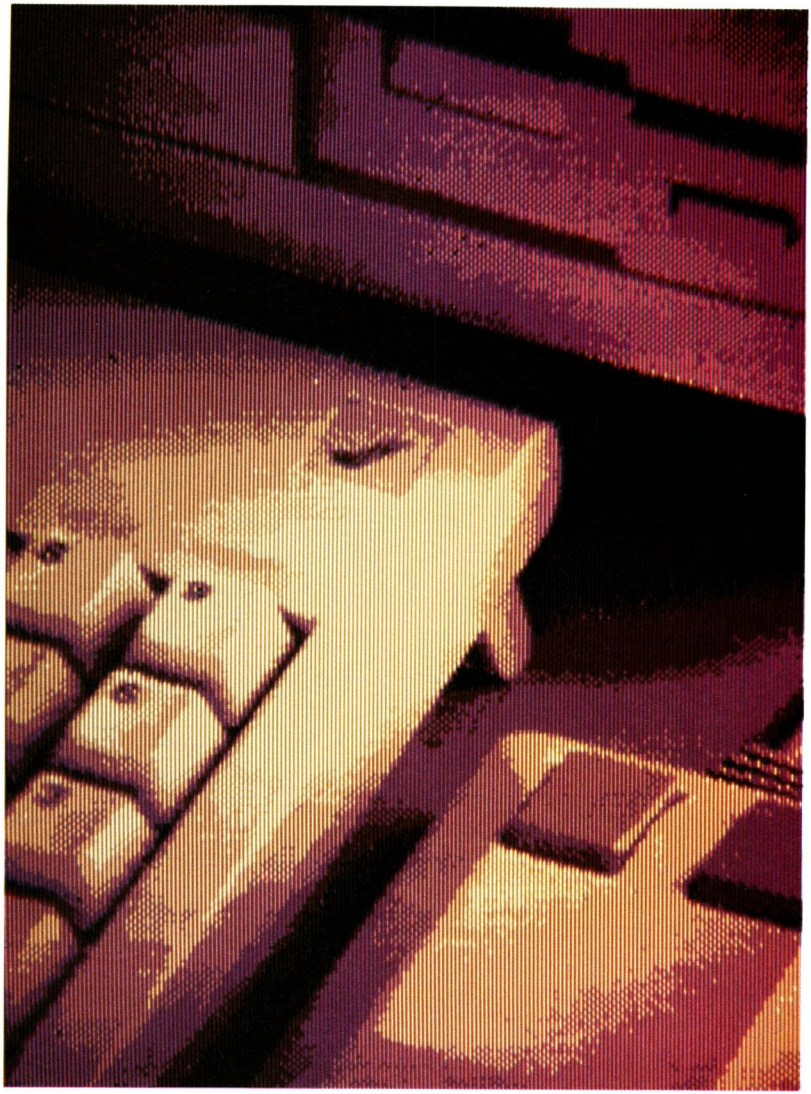
Chapter 7, "Reference," includes specifications for the Amiga, as well as information about:

- how to change many of the settings for your Amiga
- the Amiga input/output connectors

At the end, you'll find a glossary of important terms. Terms from the glossary are shown in *italics* where they first appear in the text.

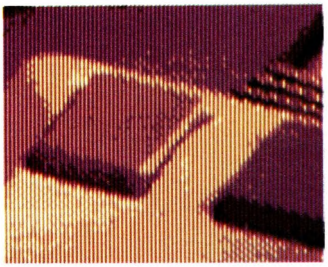
For More Information

See the *Graphicraft*, *Textcraft*, and *Amiga Basic* manuals to learn how to use these tools. If you are interested in developing software for the Amiga, or if you'd like to learn the details of how the Amiga works, see the *AmigaDOS User's Manual*, the *Amiga Hardware Manual*, the *Amiga ROM Kernel Manual*, the *AmigaDOS Developer's Manual*, the *AmigaDOS Technical Reference Guide*, *The Developer's Guide to the Workbench*, and *Intuition: The Amiga User Interface*. These manuals are available from your Amiga dealer.



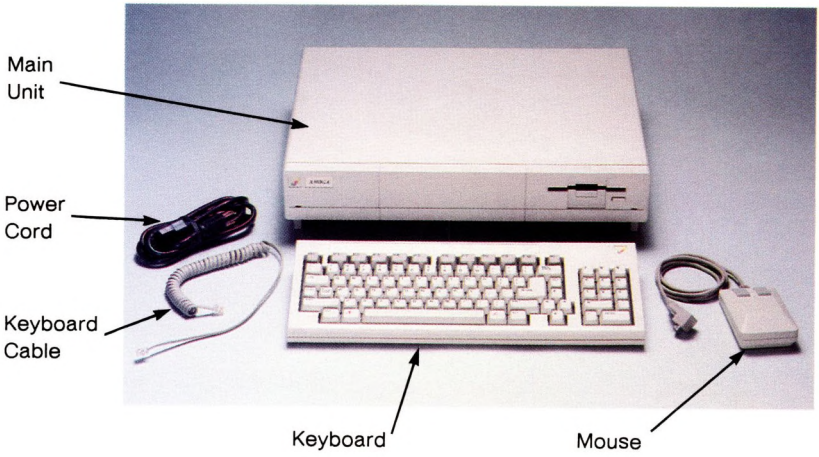
Chapter 2

Setting Up the Amiga



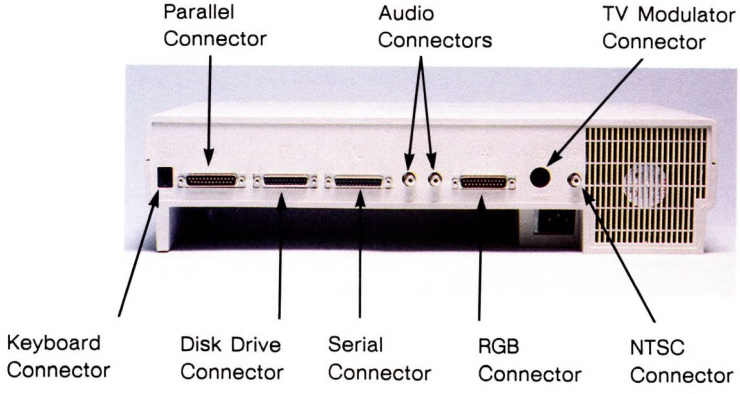
Your Amiga takes only a few minutes to put together. Here are the things you'll find packaged with the Amiga:

- the *main unit*
- the AC power cord
- the *keyboard*
- the *keyboard cable*
- the *mouse*
- three *microdisks*
- manuals, including the one you're reading now
- warranty information



Where to Find the Connectors

On the back of the main unit, you'll find a number of *connectors*. These are places where you attach cables and other devices:



On the right side of the main unit, you'll find two more connectors labeled "1" and "2":

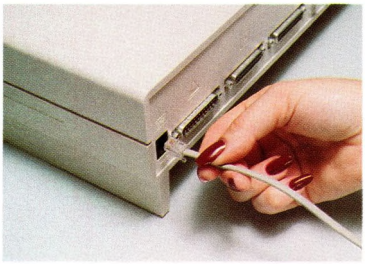
Before You Start

Before putting your Amiga together, **be sure to read each instruction carefully.** While it's not difficult to assemble the Amiga, it *is* possible to damage it if you don't follow the instructions.

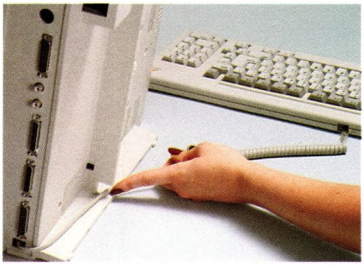
When you attach any of the cables or insert anything into a connector, remember: **use a minimum of force.** You can tell when a cable and connector are properly mated when the end of the cable first slides into the connector, then stops when it is in as far as it will go. Always start by pushing gently on the end of a cable. If the cable doesn't slide inward, check the cable and connector to make sure they match and that they're properly oriented before applying more force.

Attaching the Keyboard

Find the keyboard cable, the coiled cable that's straight at one end. Plug the straight end into the *keyboard connector* on the back of the Amiga:



Now put the rest of the keyboard cable underneath the main unit. There's a square opening for the cable to pass through:



Finally, plug the other end of the keyboard cable into the keyboard:

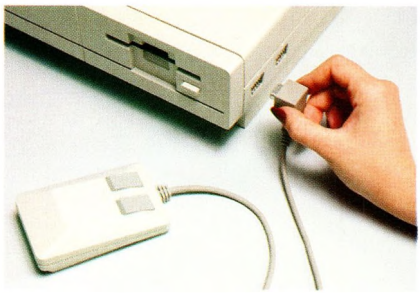
You can change the tilt of the keyboard by folding down the two legs on the bottom. Try both positions to find the tilt that's most comfortable:

With the legs folded up, you can slide the keyboard under the main unit. This helps save space on your work surface when you're not using the Amiga:

Attaching the Mouse

Before attaching a new mouse, turn the mouse upside down and pull out the piece of foam that holds the *mouse ball* in place. (If you don't get all the foam out, see the "Cleaning the Mouse" section in Chapter 6 to find out how to uncover the mouse ball.)

To attach the mouse, just plug the end of the mouse's cable into the connector labeled "1" on the right side of the main unit. (It's a tight fit; this helps keep the plug in place. Be sure to press firmly.)



If you're right-handed, you'll want the mouse to the right of the keyboard. If you're left-handed, put the mouse to the left. Make sure that the place you set aside for the mouse is at least 12 inches by 12 inches (30 centimeters by 30 centimeters) and that it's clean and flat.

Attaching the Video Monitor

The *video monitor* displays visual information. There are three kinds of video monitors you can use with the Amiga:

- an *RGB monitor*. The *Amiga Monitor* available from Amiga dealers is an RGB monitor. RGB monitors normally produce the best-quality display.

- an *NTSC (composite video) monitor*. There are many kinds of NTSC monitors made specifically for computers. In addition, many newer televisions have NTSC connectors that allow you to connect them directly to computers.

- a television. Conventional televisions (those without NTSC connectors) can also be used as monitors for the Amiga.

When choosing a monitor, note that televisions and NTSC monitors cannot display as much information as RGB monitors. RGB monitors can show 80 characters clearly on each line on the display, while most televisions and NTSC monitors can show only 60 characters clearly.

Attaching an RGB Monitor

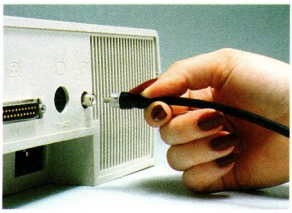
To attach an Amiga Monitor, use the *video cable* supplied with the monitor. Plug the small end of the video cable into the connector on the back of monitor:

Plug the large end of the cable into the *RGB connector* on the back of the Amiga:

To attach other RGB monitors, see your Amiga dealer for the correct cable and instructions.

Attaching an NTSC Monitor

To attach an NTSC monitor or a television with an NTSC connector to the Amiga, use a shielded cable with a *phono plug* at each end. (You can get this cable from your Amiga dealer.) Plug one end of the cable into the appropriate connector on the monitor, then plug the other end into the NTSC connector on the back of the Amiga:



Attaching a Television

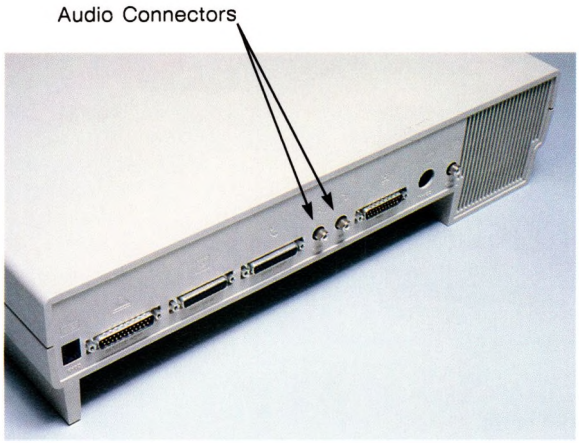
To use a conventional television as a monitor, you need:

- a *TV modulator*
- a *TV modulator cable*
- a *TV switch box*

You can get these from your Amiga dealer. You'll find instructions packaged with them.

Connecting Audio Equipment

The Amiga produces high-quality stereo sound. There are two connectors on the back of the Amiga for connecting the Amiga to audio equipment:

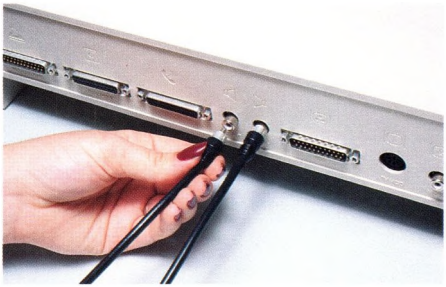


Unless you've attached a conventional television to the Amiga with a TV modulator, you need to connect the Amiga to either an audio system or the audio connector found on some monitors to hear sounds produced by the Amiga.

Connecting the Amiga to a Stereo System

To connect the Amiga to a stereo system, you need two cables. Each cable must on one end have a plug that fits the input connector on your amplifier or receiver (this is most often a phono plug) and on the other end have a phono plug to fit into the Amiga.

On most stereo systems, there are extra inputs, often labeled "Auxiliary" or "Aux," to which you attach one end of each cable. On the back of the Amiga are two *audio connectors,* one for the left audio signal and one for the right audio signal. Insert the other end of each cable into the appropriate audio connector:



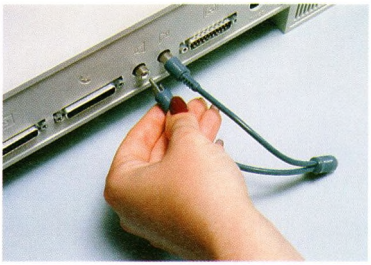
Sound Connections for Monitors

Some monitors, including the Amiga Monitor, have a built-in speaker. To connect a monitor for sound, you need:

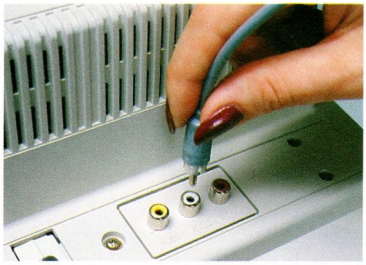
- a *"Y" adapter* that converts the two stereo channels from the Amiga to a single channel
- a cable for connecting the "Y" adapter to the audio connector on the monitor

The "Y" adapter and connecting cable are included with Amiga Monitors. You can get "Y" adapters and connecting cables for other monitors from many stores that carry radio and electronic parts.

To connect the monitor, insert the two phono plugs at the top of the "Y" into the audio connectors on the back of the Amiga:



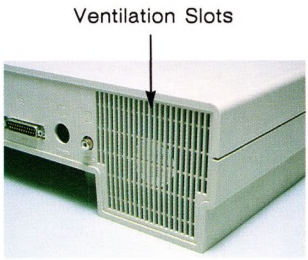
Next, insert one end of the connecting cable into the connector on the monitor:

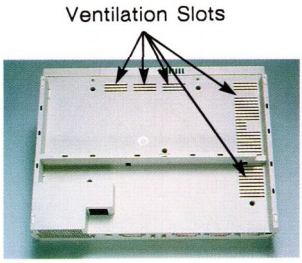


Finally, connect the other end of the cable to the "Y" adapter:

Plugging It In

You're almost done putting your Amiga together. Before you plug it in and turn it on, make sure there's nothing obstructing the ventilation slots on the back or bottom of the main unit:



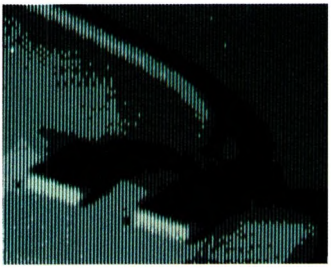


Plug the six-sided end of the power cord into the main unit:

Plug the other end of the power cord into a grounded outlet, and you're ready to start using your Amiga.

Chapter 3

Getting Started



In this chapter, you'll learn the basics of using your Amiga. When you're done, you can start using the *tools,* such as the *Graphicraft*™ color graphics tool, that let you work with the Amiga.

A Note About the Mouse

The descriptions in this chapter (and throughout the rest of this manual) assume you're using a mouse. There are, however, certain keys on the keyboard you can use in place of the mouse. To learn how, see the sections "Moving the Pointer Without a Mouse," "Selecting Without a Mouse," and "Using Menus Without a Mouse" in this chapter.

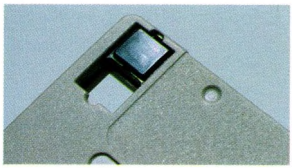
Using Disks

Start by getting the three microdisks—the *Kickstart disk*, the *Workbench disk*, and the *Extras disk*—that came with your Amiga. These disks contain important information used by the Amiga. In addition, have three blank microdisks ready. (You can get blank microdisks from your Amiga dealer.) You'll copy the information from the original disks onto these blank disks and keep the originals in a safe place.

Your original Amiga disks may have *protect tabs*. These are small plastic tabs on the backs of the disks. If you find protect tabs on the original disks, slide each tab toward the edge of the disk until it clicks into place. When you do, you'll be able to see through a small hole in each disk:

Protect Tab

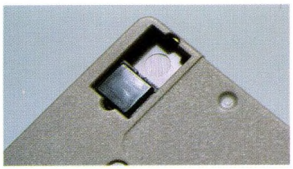
Disk is protected



By putting the protect tabs in this position, you prevent the information on the disks from being changed while they're in the Amiga.

On each of the three blank disks, make sure that the protect tab is toward the middle of the disk, so that it covers the hole. With the tab in this position, you can add new information to a disk:

Disk is unprotected

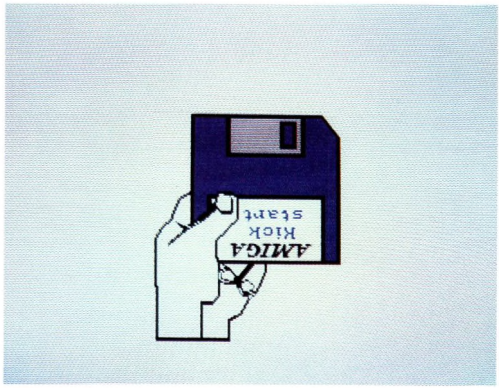


The On/Off switch is on the left side of the main unit. To turn on the Amiga, press the end of the switch labeled "1":

A word of warning:

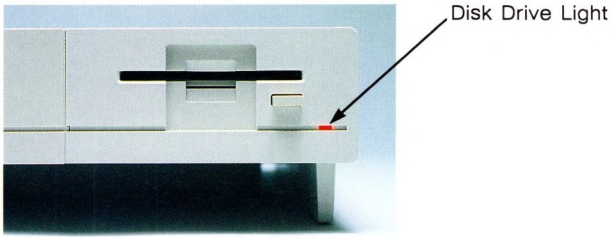
> **Whenever you turn off the Amiga, always wait AT LEAST 5 seconds before turning it on again.** If you don't observe this precaution, you may damage the Amiga.

In a few moments, you'll see a picture of a hand holding a Kickstart disk:



This is your cue to insert the Kickstart disk—metal end in, label side up—into the *disk drive*, the device that reads information from disks and adds information to them. Push in the disk until it clicks into place:

After you put in the disk, you'll hear sounds from the Amiga. These are the sounds the disk drive makes as it gathers information. In less than a minute, the Amiga will get the information it needs—with the help of the disk drive—from the Kickstart disk. Notice that while the disk drive is working, the *disk drive light* is on:

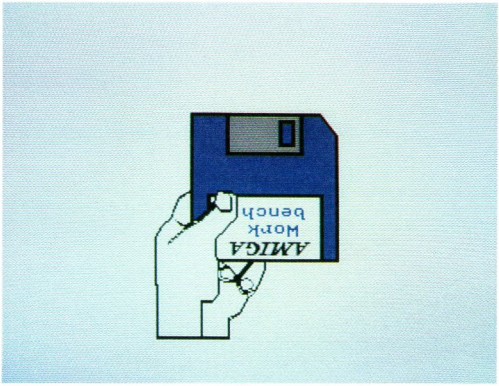


A word of warning:

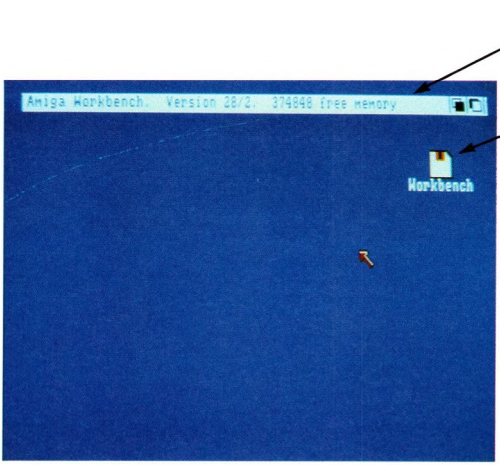
NEVER remove a disk when the disk drive light is on.

The disk drive light tells you that the Amiga is using the disk. Taking a disk out too soon may make it impossible for the Amiga to finish an important task, such as reading the information from the Kickstart disk. Even worse, taking a disk out too early may ruin the information on a disk. Always wait for the disk drive light to turn off before you remove a disk.

When the Amiga is finished with the Kickstart disk, the disk drive light turns off and the hand reappears, this time holding the Workbench disk:



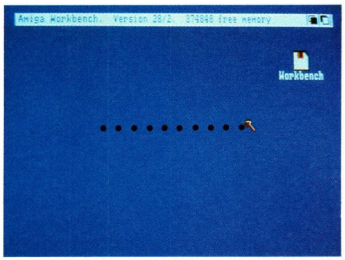
Take out the Kickstart disk by pressing the button on the front of the disk drive, then insert the Workbench disk. In a few moments, you'll see the *Workbench:*



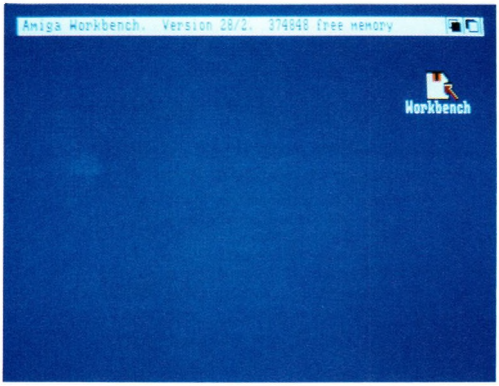
At the top is a *title bar* that identifies the Workbench. On the Workbench is an *icon*, a small picture that represents the Workbench disk. You'll learn more about icons later in this chapter.

Moving the Pointer

You use the *Pointer*, the small arrow on the display, to *point* to the things you want to work with. Moving the mouse moves the Pointer. Without pressing either of the *mouse buttons* on top of the mouse, try rolling the mouse. Be sure to hold the mouse as shown below:



To point, move the Pointer so that its tip is over the thing you want to point to:

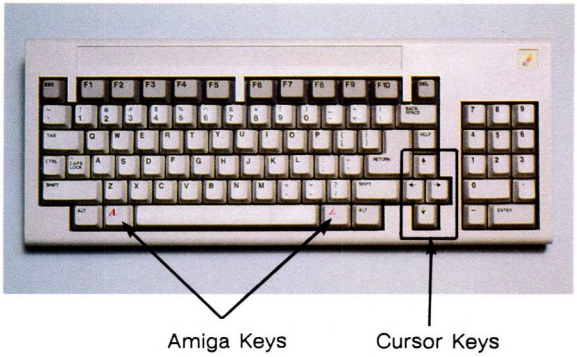


When you first use the mouse, don't worry if it feels a bit clumsy. Once you're familiar with it, you'll find that using the mouse is very quick and convenient.

If you run out of room for your mouse before you get the Pointer where you want it, just lift the mouse and put it down where there's more room. Lifting the mouse doesn't move the Pointer.

Moving the Pointer Without a Mouse

To move the Pointer without a mouse, *hold down* either of the *Amiga keys* while you press a *cursor key:*

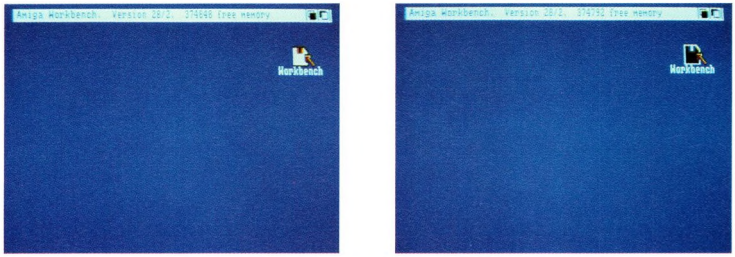


With an Amiga key held down, the Pointer moves in the direction of the arrow on top of the cursor key you press. The longer you hold down the keys, the faster the Pointer moves. To make the Pointer move even faster, hold down both the SHIFT key and an Amiga key while you press a cursor key. To stop moving the Pointer, *release* the cursor key.

Selecting Icons

You use the *Selection button,* the left button on the mouse, to *select* icons and other features. Try selecting the icon for the Workbench disk:

Point to the Workbench disk icon, then *click* (*press* and quickly *release*) the Selection button:



The icon for the Workbench disk is *highlighted* to indicate that it's selected.

Selecting Without a Mouse

To select an icon without using a mouse, first point to the icon, then press both the left Amiga key and the left *ALT key* at the same time:

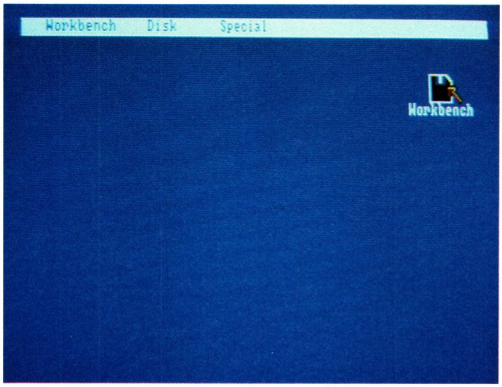
Anything you do by pressing the Selection button on the mouse you can also do by pressing the left Amiga key and the left ALT key at the same time.

Using Menus

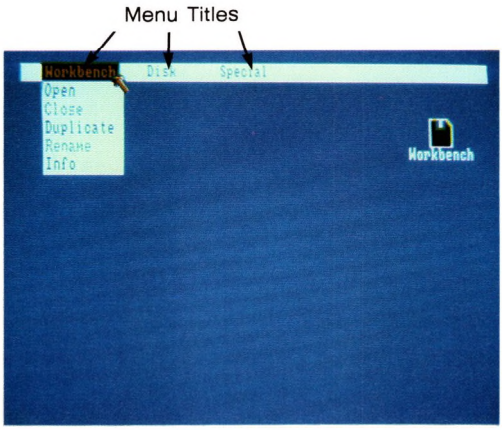
For most tools, including the Workbench, there are *menus* that list choices you can make. To use menus, you use the *Menu button,* the right-hand button on the mouse. The best way to learn how menus work is to try one:

Select the icon for the Workbench disk if it isn't already selected.

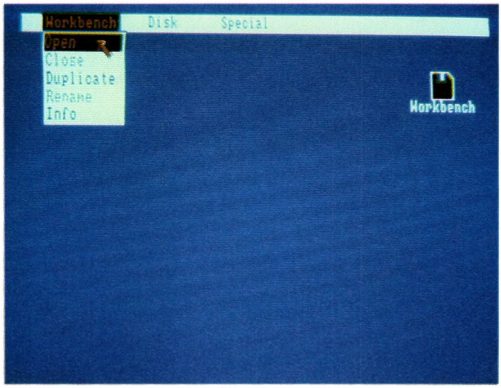
Hold down the Menu button. When you do, the *Menu Bar* appears. In the Menu Bar are *titles* of menus:



Without releasing the Menu button, point to the title Workbench in the Menu Bar. The *Workbench menu* appears:

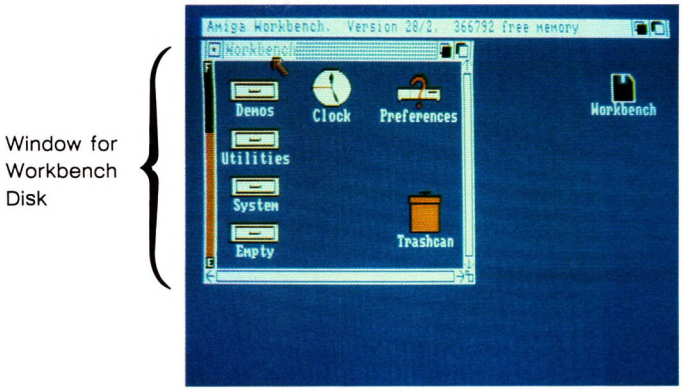


While keeping the Menu button down, point to Open in the menu. Open is highlighted:



Choose Open by releasing the Menu button while Open is highlighted.

By choosing the Open item from the Workbench menu, you *open* a *window* for the Workbench disk:



In the window, you see icons that represent the contents of the Workbench disk.

If you decide you don't want to choose a menu item, move the Pointer off the menu before releasing the Menu button.

To browse through a tool's menus, just hold down the Menu button while moving the Pointer along the Menu Bar. Without choosing an item, you'll get to look at the menu items that are available.

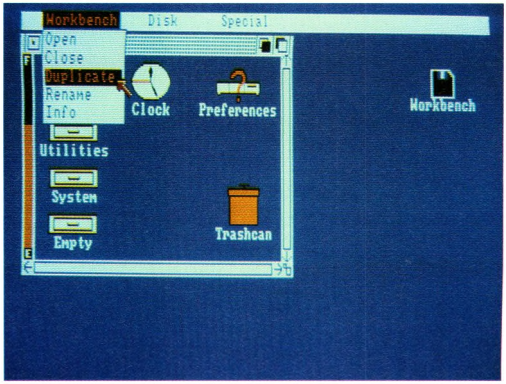
Using Menus Without a Mouse

Just as pressing the left Amiga key and the left ALT key at the same time is like pressing the Selection button, pressing the right Amiga key and the right ALT key at the same time is like pressing the Menu button. To use menus without a mouse, hold down the right Amiga key and right ALT key while you move the Pointer with the cursor keys. When the menu item you want is highlighted, release the right Amiga key and right ALT key.

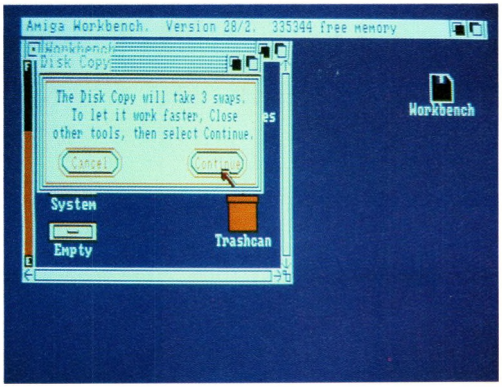
Duplicating Your Disks

It's important to make duplicates of your original disks and keep the originals in a safe place. You then use the duplicates, called *working disks,* for everyday use. Before you do anything else with the Workbench, follow these directions for duplicating disks:

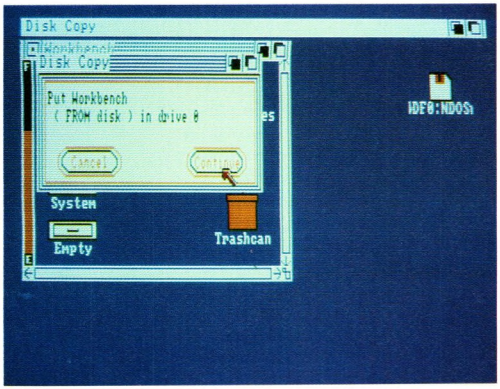
Select the icon for the Workbench disk, then choose Duplicate from the Workbench menu:



A *requester* appears. A *requester* is something the Amiga uses to communicate with you. Here, the requester tells you how many times you'll have to change disks as you copy. Select Continue to go on:



A new requester asks you to insert the disk you want to duplicate. Since the Workbench disk is already in the drive, select Continue to go on:



Next you'll see a requester that asks you to insert the disk to receive the copy. Take out the Workbench disk, insert one of the blank disks, then select Continue:

Finally, there is a series of requesters that ask you to exchange disks. Insert the disk each requester asks for, then select Continue.

When you've finished copying the disk, remove the copy and label it using one of the self-adhesive disk labels packaged with new disks.

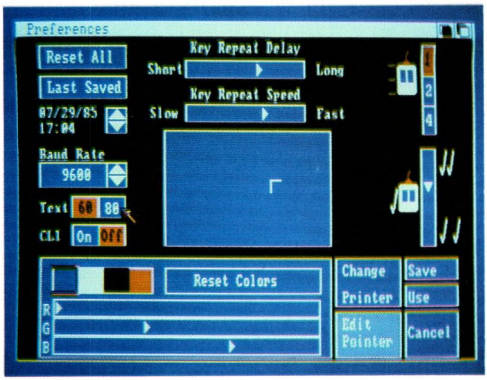
Copy the other two disks in the same way: insert the disk you want to copy, select the icon for the disk, choose Duplicate from the Workbench menu, then follow the instructions in the requesters. Be sure to label the copies when you're finished.

When you've made copies of all three disks, put the original disks in a safe place and use only the working disks. That way, if you lose or damage a working disk, you'll be able to make another copy from the original. To learn about proper care for your disks, see Chapter 6, "Caring for the Amiga."

Using a Tool: Preferences

With the *Preferences* tool, you can make a number of changes to your Amiga. In Chapter 7, you'll find a complete list of Preferences settings. Here, you'll learn how to start using Preferences, how to use Preferences to get the most from your monitor, and what to do when you're finished using Preferences.

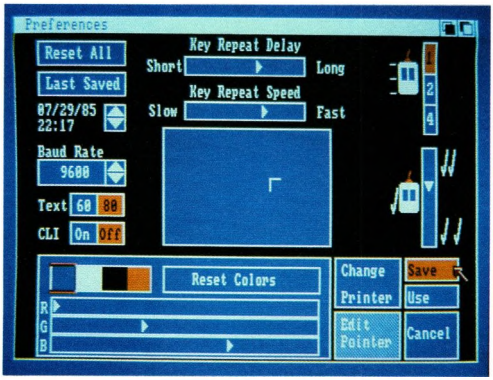
Select the Preferences icon, then choose Open from the Workbench menu. A window for Preferences appears:



Tools use windows to display information and to accept information from you. The Preferences window shows you the current settings for Preferences and lets you change them.

At the left of the Preferences window, you set the number of *characters* (letters, numbers, and symbols) that appear on each line of the display. To the right of the word Text are two *gadgets,* one marked 60 and the other marked 80. If you're using an Amiga Monitor or another RGB monitor, select 80. If you have an NTSC monitor or television attached to your Amiga, select 60.

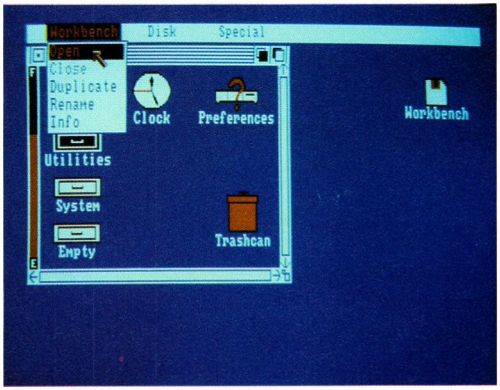
When you're done, select Save to save your choices on the Workbench disk and return to the Workbench:



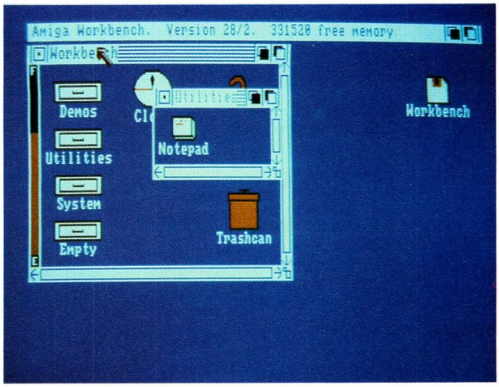
Creating a Project

You'll use most Amiga tools to create *projects*. One example of a project is a note you write with the *Notepad,* a tool that is included on your Workbench disk. Here's how to write a note:

Select the Utilities drawer on the Workbench, then choose Open from the Workbench menu:



In the window that appears, you'll see the icon for the Notepad:

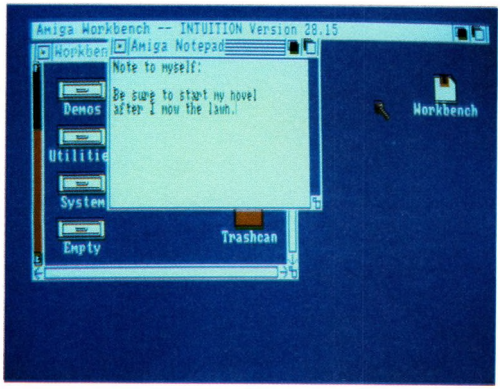


Open the Notepad by selecting its icon, then choosing Open from the Workbench menu.

You can also try another, quicker way to open a tool: point to the icon for the tool, then *double-click* the Selection button. To double-click, quickly press and release the button twice.

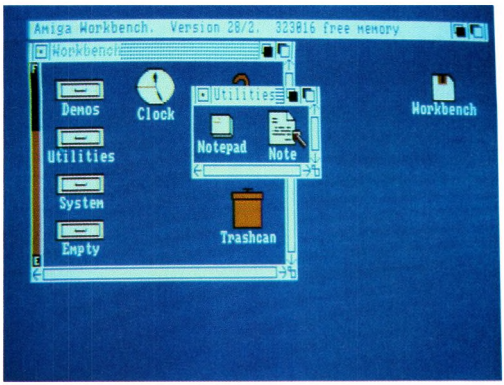
In a few moments, a window for the Notepad appears:

Using the keyboard, type in your note:



To save your note, choose Save As from the Project menu. Select the box that appears, type in a name for your note, then press the RETURN key on the keyboard.

When you're done, choose Quit from the Project menu. On the Workbench, you'll see a new icon. This is the icon for your note:

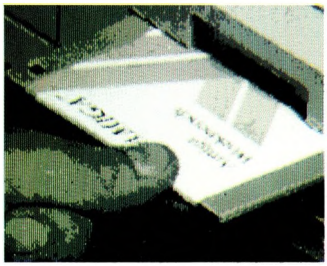


If you want to get back your note, open it by pointing to its icon and double-clicking the Selection button. When you reopen your note, the Notepad is also reopened. You can then add to or change the note.

Now that you're acquainted with the Workbench, menus, and projects, you're ready to use other Amiga tools. Take time now to become familiar with one or more of the tools. When you're done, read Chapter 4 to learn the many other things you can do with the Workbench.

Chapter 4

Using the Workbench



The Workbench is a tool you use to control the Amiga. This chapter describes the Workbench and the tasks you perform with it.

What Is the Workbench?

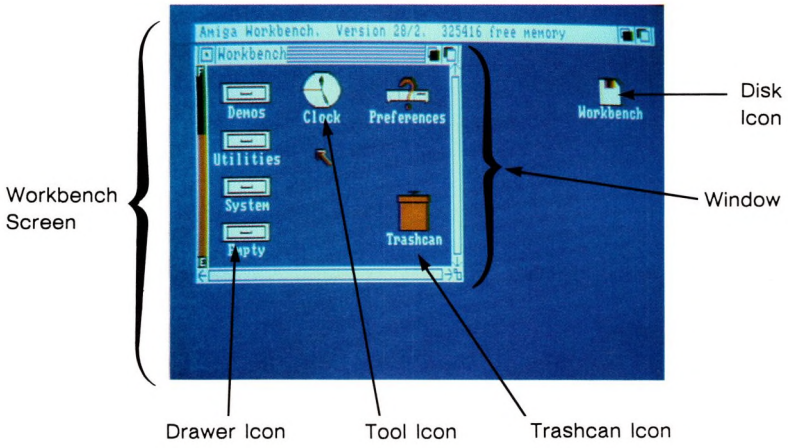
The Workbench is:

- a tool you use to control the Amiga. You open the Workbench by inserting a disk, called a *Workbench disk,* that contains the Workbench tool.

- an area of the display—a *screen*—set aside for the Workbench.

What's on the Workbench?

When you open the Workbench disk, here are the things you see on the Workbench screen:



Icons

Icons are small pictures that appear on the Workbench. They represent:

- tools
- projects
- disks
- *drawers,* places where you keep tools, projects, and other drawers
- the *Trashcan,* which you use to discard tools, projects, and drawers

Windows

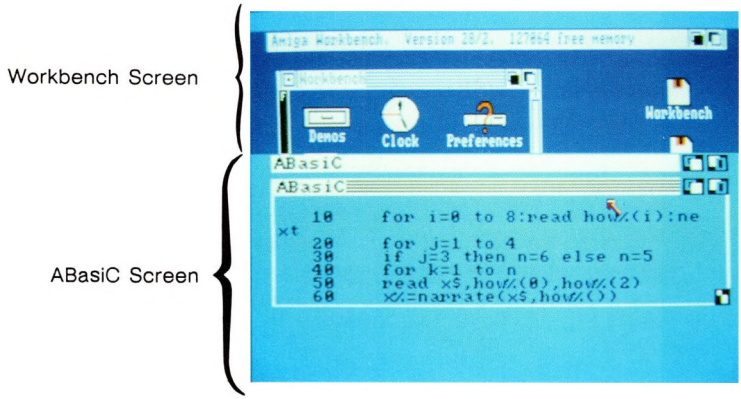
Windows let you see the contents of projects, drawers, disks, and the Trashcan. Each window has a *Title Bar* at the top to identify it. In addition, a window may have one or more *gadgets* that let you change what's being displayed or that let you communicate with a tool. Gadgets are described later in this chapter in the section "Workbench Operations."

Screens

On the Amiga, the way visual information is displayed can be different for different tools. To change the display, tools request different *video attributes*. These attributes include:

- horizontal resolution, the number of *pixels* that appear on each line of the display
- number of colors displayed in the screen
- color palette, the colors that appear in the screen
- interlace, which doubles the number of horizontal lines that appear in the screen

Screens are areas of the display with the same video attributes. They are always as wide as the display. Each screen contains one or more windows:

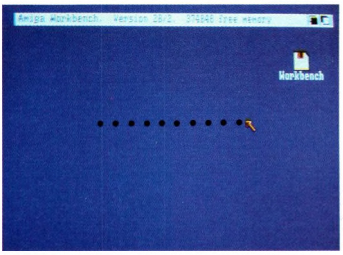


Controlling the Workbench

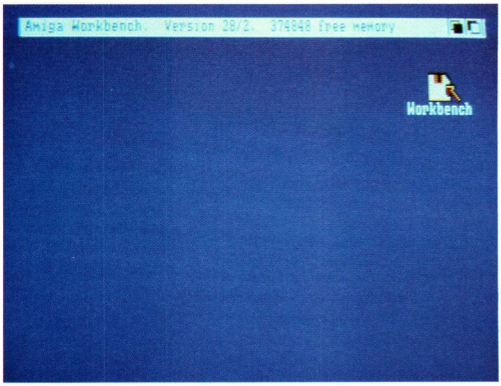
This section explains the techniques you use to perform Workbench tasks. You use many of these same techniques when working with other Amiga tools.

Pointing

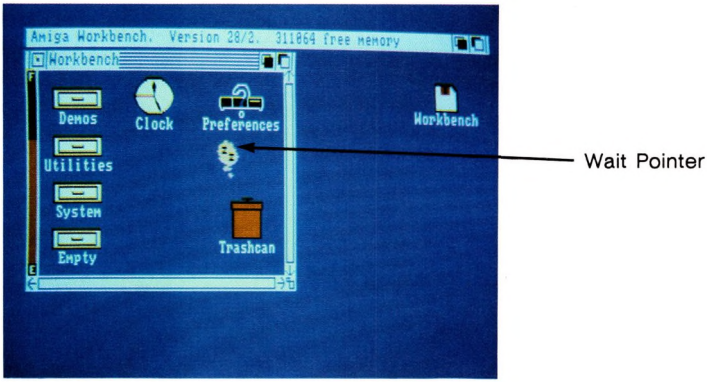
To move the Pointer, you move the mouse:



You *point* to something by moving the Pointer's *point* over it:



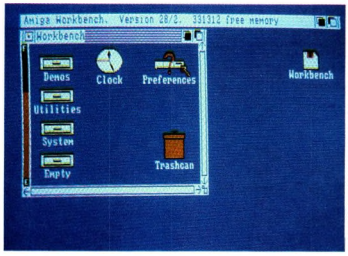
There are times when you must wait for the Workbench to finish an activity before you can continue. When this happens, the Pointer changes shape and becomes a *Wait Pointer:*

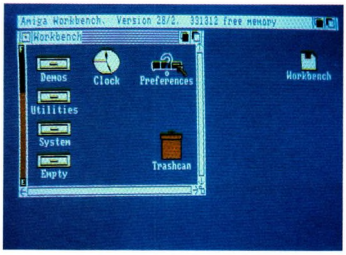


When the Pointer returns to its original shape, you can continue working.

Selecting

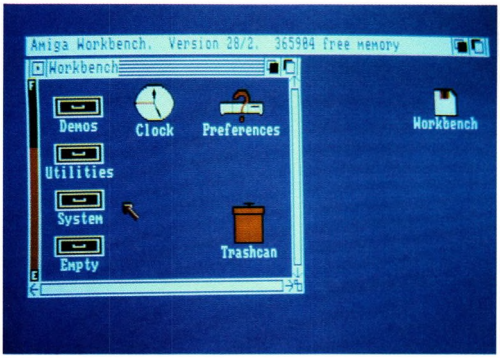
To select an icon, point within it, then click the Selection button, the left-hand button on the mouse:





If you no longer want an icon selected, point to a place on the Workbench that isn't occupied by an icon or gadget, then click the Selection button.

Extended Selection is a technique for selecting more than one icon in the same operation. To use it, hold down the SHIFT key while you select icons. Release the SHIFT key when you're done selecting:



Dragging

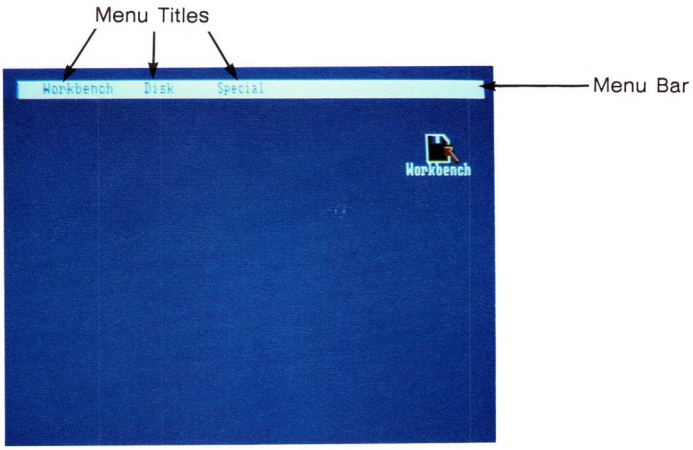
You move icons, windows, and screens by *dragging* them. To drag an icon, you point to it, hold down the Selection button, and move the mouse. As you drag, the Pointer changes shape:

When you release the Selection button, the icon reappears where you've positioned the Pointer.

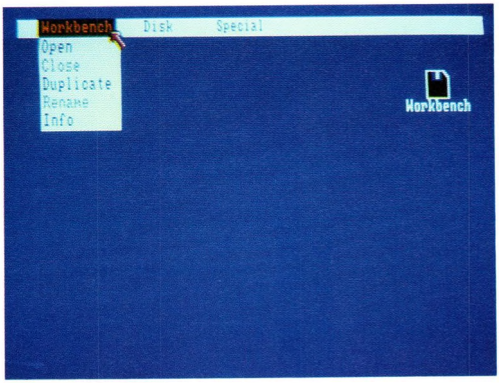
To learn how to drag windows and screens, see the section "Workbench Operations" at the end of this chapter.

Choosing Menu Items

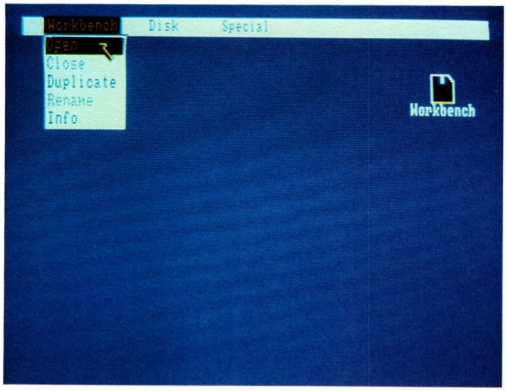
Most tools, including the Workbench, provide menus from which you choose things you can do with the tool. To see the menus that are available, you press the Menu button, the right-hand button on the mouse. When you do, the titles of available menus appear in the Menu Bar, a strip that replaces the Title Bar in the screen in which you're working:



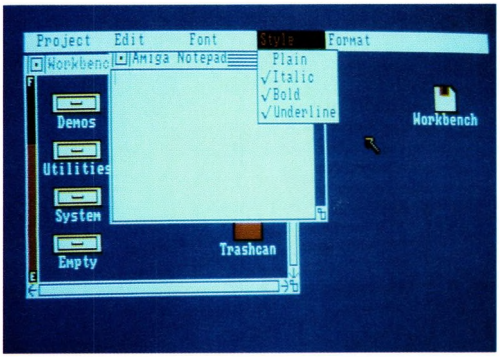
To choose a menu item, hold down the Menu button and move to the title of a menu. The menu appears:



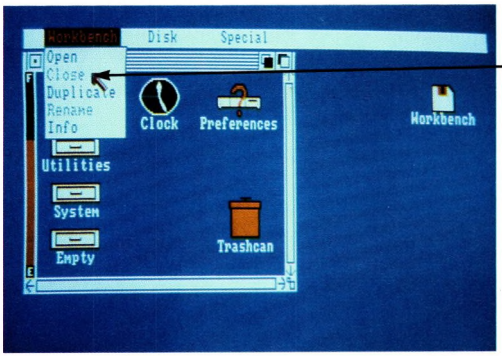
Finally, point to the item you want to choose and release the Menu button:



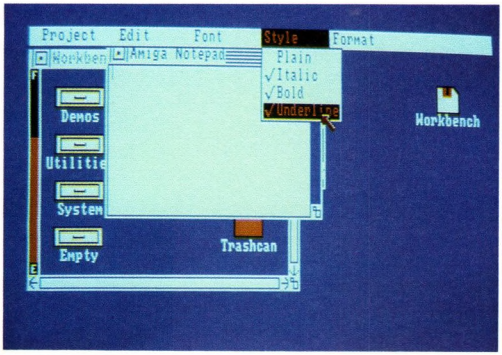
In menus, there are two kinds of items. *Commands* are items that you choose to perform an action. One example of a command is the Open item in the Workbench menu. You choose Open to open a window. *Options* are choices that persist until you choose other, mutually exclusive options. Examples of options are the type styles available in the Amiga NotePad. Options you've chosen are indicated by check marks to the left of the menu items:



In some tools, not all menu items are available at all times. Menu items that you cannot chooose appear as *ghost items:*



Multiple Choice is a technique for choosing more than one menu item in the same operation. To use it, hold down the Menu button, then click the Selection button with the Pointer over each of the items you want to choose:



When you're done choosing, release the Menu button.

Shortcuts

A *shortcut* is a quick way, from the keyboard, to select something or to choose a menu item. For a *selection shortcut,* you press a key on the keyboard while holding down the left Amiga key (the key immediately to the left of the Space Bar). For a *menu shortcut,* you press a key on the keyboard while holding down the right Amiga key.

Selection shortcuts for the Workbench are described in the "Workbench Operations" section at the end of this chapter.

Using the Amiga Without a Mouse

On the Amiga, anything you can do with the mouse you can also do from the keyboard:

- To move the Pointer, press an Amiga key and one of the cursor keys (the keys with arrows on top that are to the right of and slightly below the RETURN key) at the same time. This moves the Pointer in the direction of the arrow on the cursor key. The longer you hold down these keys, the faster the Pointer moves.

- To move the Pointer faster, press an Amiga key, the SHIFT key, and one of the cursor keys at the same time.

- Instead of pressing the Selection button (the left button on the mouse), you can press the left Amiga key and the left ALT key (the key just to the left of the left Amiga key) at the same time.

- Instead of pressing the Menu button (the right button on the mouse), you can press the right Amiga key and the right ALT key (the key just to the right of the right Amiga key) at the same time.

Workbench Operations

Using the techniques described in the last section, you can use the Workbench to work with tools, projects, drawers, and disks. This section describes the fundamental Workbench operations.

Operations Involving Tools and Projects

Opening Tools and Projects

When you open a tool or project, you open a window that lets you see the contents of the project or that lets you communicate with the tool. There are two ways to open a tool or project:

- Select the icon for the tool or project, then choose Open from the Workbench menu.
- Point to the icon, then double-click the Selection button.

Opening a project automatically opens the tool used to create it.

On the Amiga, you can have more than one tool open at the same time. This ability is called *multitasking:* the Amiga is able to perform several tasks at once. Note, however, that each new tool you open requires a certain amount of *memory*. Memory is the set of electronic circuits within the Amiga used to keep information. If, when you try to open an additional tool, there isn't sufficient memory for it, the Workbench gives you a message at the top of the screen.

Duplicating Tools and Projects

Duplicating a tool or project means to make an identical copy in the drawer in which the tool or project resides. To duplicate, select the icon for the tool or project, then choose Duplicate from the Workbench menu.

The name of the new tool or project is "Copy of" added to the name of the tool or project that was copied. For example, duplicating the Clock gives you a new tool named "Copy of Clock."

Renaming Tools and Projects

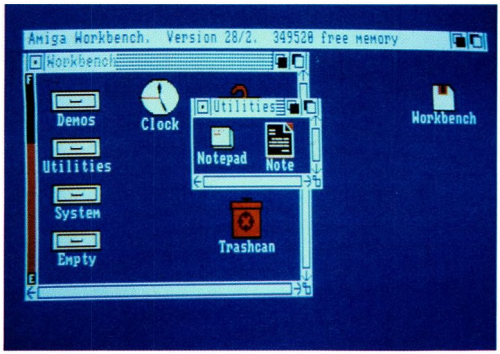
To give a tool or project a new name, select its icon, then choose Rename from the Workbench menu. A message then appears asking you for a new name. Select the window that appears, type in a name, then press the RETURN key.

Getting Information about Tools and Projects

To get information about tools and projects, select the icon for the tool or project, then choose Info from the Workbench menu.

Discarding Tools and Projects

To discard a tool or project, drag its icon over a Trashcan icon:



When you do, the tool or project is kept in a special drawer maintained by the Trashcan. It remains in this drawer until you choose Empty Trash from the Disk menu. If you haven't chosen Empty Trash since you last put something in the Trashcan, you can retrieve what you discarded by opening the Trashcan in the same way you open a project, then dragging its icon to

an open drawer somewhere on the Workbench. Note that when you discard something, you do not reclaim disk space until you choose Empty Trash.

Operations Involving Drawers

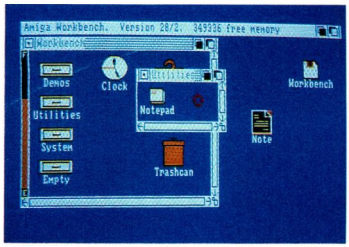
Drawers are places where you can keep tools, projects, and other drawers. You can use drawers to keep order on the Workbench and to keep related items together.

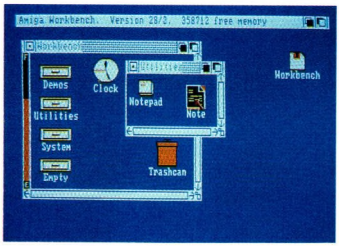
Opening Drawers

You open a drawer in the same way you open a tool or project: either point to the icon for the drawer and double-click the Selection button or select the icon for the drawer, then choose Open from the Workbench menu. As with a tool or project, opening a drawer gives you a window on the Workbench.

Moving Tools, Projects, and Drawers

To move a tool, project, or another drawer into a drawer, open the drawer into which you want to put the tool, project, or drawer, then drag the icon into the drawer's window:





Another way to move a tool, project, or another drawer into a drawer is to drag the icon over the icon for the drawer into which you want to put it.

Duplicating Drawers

To duplicate a drawer, select the icon for the drawer, then choose Duplicate from the Workbench menu. A new drawer, whose name is "Copy of" added to the name of the drawer that was duplicated, appears in the window.

To create a new drawer, you duplicate another drawer. The quickest way is to duplicate the empty drawer that appears on the Workbench, then give the new drawer a new name.

Renaming Drawers

To rename a drawer, select the icon for the drawer, then choose Rename from the Workbench menu. A message then appears asking you for a new name. Select the window that appears, type in a name, then press the RETURN key.

Discarding Drawers

To discard a drawer, drag the icon for the Drawer over the Trashcan icon.

Note that, as with tools and projects, discarding a drawer does not reclaim disk space until you choose Empty Trash from the Disk menu.

Special Drawers: Disks and the Trashcan

Disks and the Trashcan are special kinds of drawers. Disks differ from other drawers in these ways:

- You cannot discard a disk by dragging its icon over the Trashcan icon.
- You cannot move a disk into another drawer.

The Trashcan differs from other drawers in these ways:

- You cannot move the Trashcan into another drawer.
- You cannot discard the Trashcan.
- You can remove the contents of the Trashcan by choosing Empty Trash from the Disk menu.

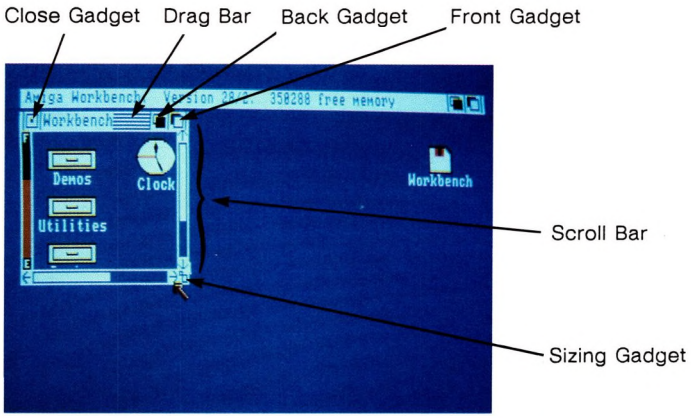
Operations Involving Windows

When you open a tool, project, drawer, disk, or the Trashcan, a window appears on the Workbench. This newly opened window appears in front of any other windows with which it overlaps.

Windows appear within screens. They cannot be moved from one screen to another. While all the windows in a screen can display information, only one window can accept information from you at a time. This window is called the *selected window*.

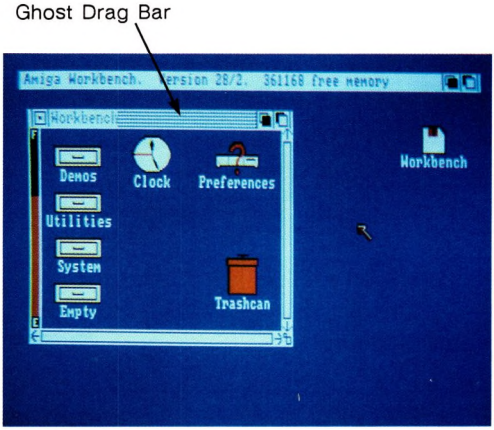
To select a window, point anywhere within the window and click the Selection button.

You change the size of a window, change what's displayed in the window, move the window, and do other things with windows with the help of *gadgets*. You also use gadgets to communicate with tools. Here are some common gadgets found in windows:



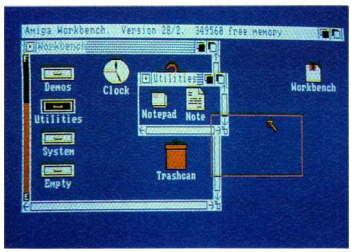
Windows can contain all, some, or none of these gadgets. In addition, windows can contain other gadgets needed for a particular tool.

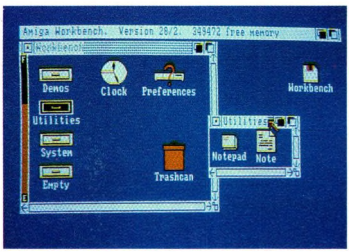
Like menu items, gadgets in a window can be unavailable. Unavailable gadgets appear as *ghost gadgets*. Here, a ghost Drag Bar indicates that the window is not selected:



Dragging Windows

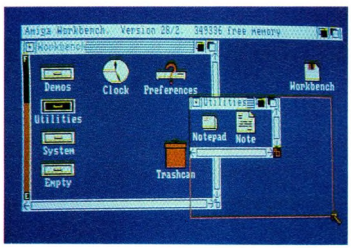
You drag a window by pointing anywhere in the window's Title Bar that is not occupied by other gadgets (the *Drag Bar*), holding down the Selection button, and moving the mouse:

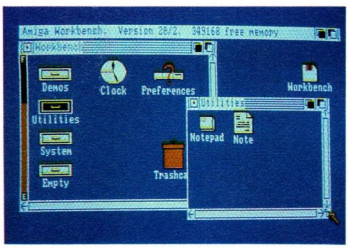




Sizing Windows

To change the size of a window, you drag its *Sizing Gadget:*

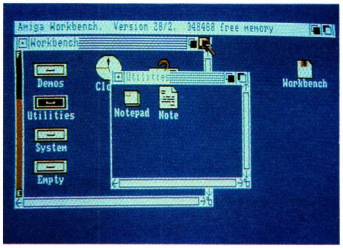


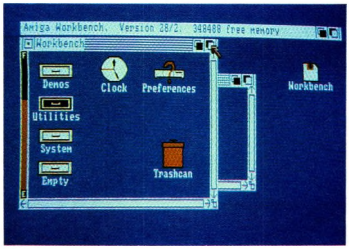


Note that some windows have a maximum size that is smaller than the screen in which they reside.

Moving Windows in Front of Other Windows

When windows overlap, one window appears in front of the others. To move a window in front of other windows, select the *Front Gadget:*

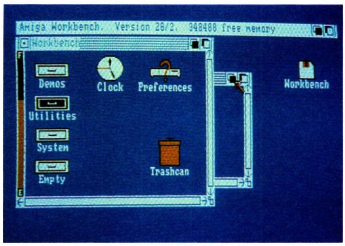




You can also move a window to the front by pointing to its icon, then double-clicking the Selection button.

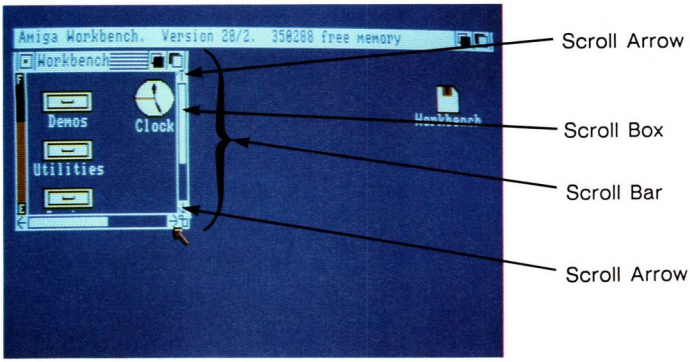
Pushing Windows Behind Other Windows

To move a window behind other windows with which it overlaps, select the *Back Gadget:*

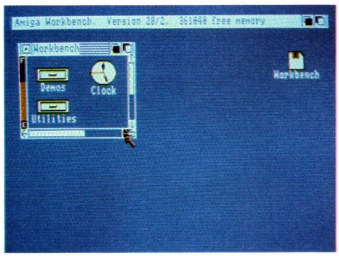


Scrolling the Contents of a Window

For many windows, you can't display everything that can appear within the window at once. Because of this, windows often have *Scroll Bars* that let you move what appears in the window:

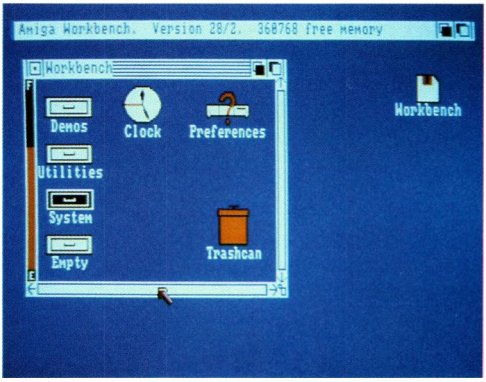


You can move half a window at a time by selecting a *Scroll Arrow* at either end of the Scroll Bar:

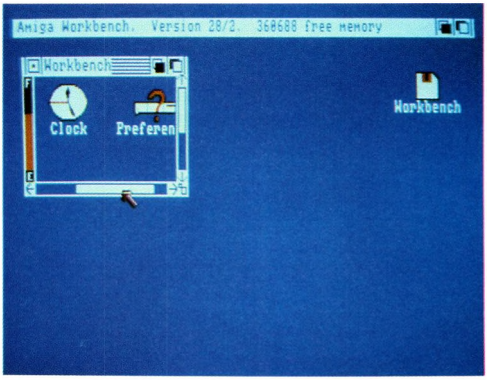


Pressing the Shift Key while selecting a Scroll Arrow moves the window one pixel.

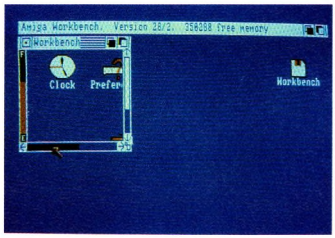
Scroll Boxes change size according to how much can appear in a window. If the window is as wide as what can appear, the Scroll Box in the horizontal Scroll Bar fills the entire space between the Scroll Arrows:

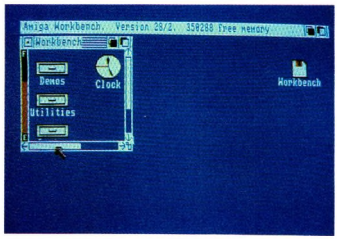


If, for example, only half of what can appear is within the window, the Scroll Box fills only half the space between the Scroll Arrows. The position of the Scroll Box indicates what part you're seeing:



To move what appears in a window, you can drag the Scroll Box:

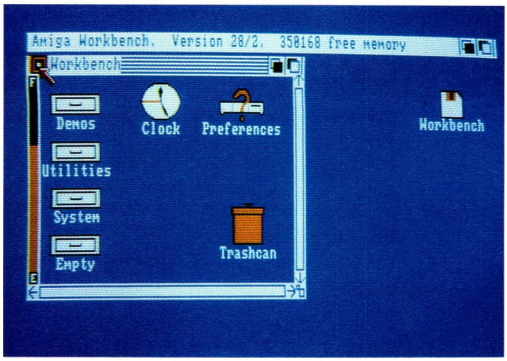




Selecting the space to either side of the scroll box causes the box to move slowly in that direction.

Closing Windows

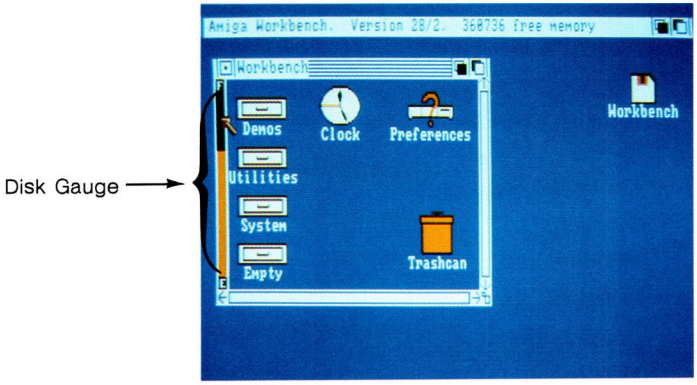
To close a window, select the *Close Gadget:*



You can also close a window for a drawer by selecting its icon, then choosing Close from the Workbench menu.

Disk Gauges

When you open a disk, the window that appears has a *disk gauge* along its left edge:



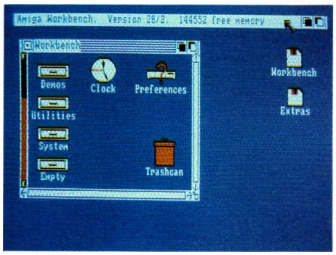
This gauge shows how full the disk is. The closer the colored center bar is to the the top, the less free storage space there is on the disk. If the disk is completely full, the colored bar fills the entire space between the "E" and "F" marks.

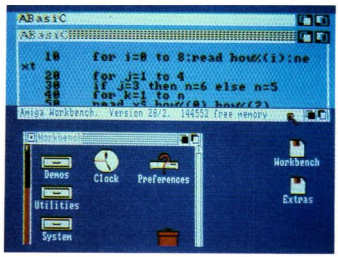
To free disk space, dispose of tools, projects, or drawers, then choose Empty Trash from the Disk menu.

Operations Involving Screens

As noted earlier, screens are areas of the display with different video attributes. When a window is opened for a tool, it appears in a screen whose video attributes are appropriate for it. Screens (except the Workbench screen) close automatically when all the windows in them are closed.

Screens are always as wide as the diplay, and are no larger than the display. Although the height of a screen is fixed, part of a screen can be off the display:

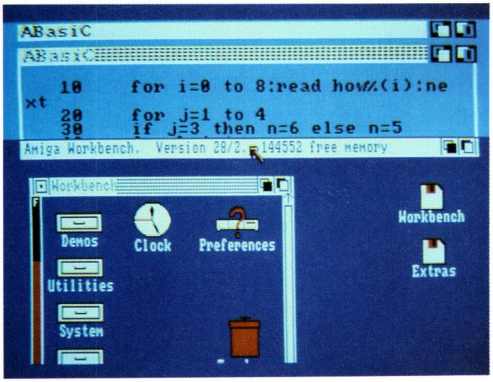




Screens, like windows, can contain gadgets. Note that a window within the screen can cover the screen's gadgets. If this happens, you must drag or resize the window to reveal the gadgets underneath.

Dragging Screens

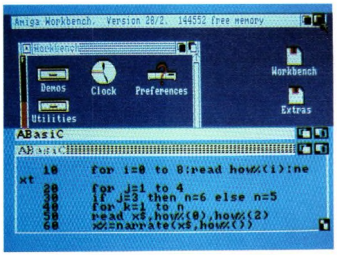
To drag a screen, point anywhere in the screen's Title Bar that is not occupied by other gadgets, hold down the Selection button, then move the mouse:

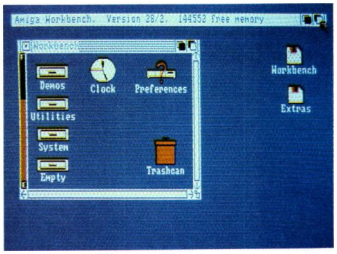


You can drag a screen down so that part of it is off the bottom of the display. Note that you cannot drag a screen up so that the bottom of the screen is above the bottom of the display.

Moving Screens in Front of Other Screens

To move a screen in front of other, overlapping screens, select the screen's Front Gadget:

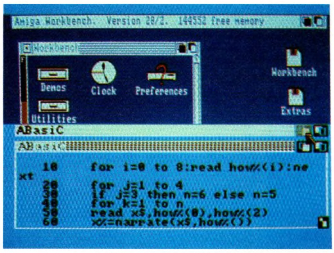


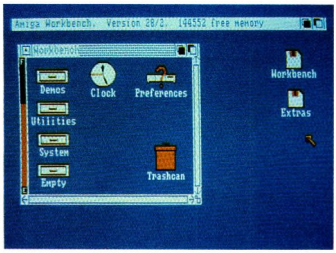


For the Workbench screen, there is a selection shortcut you can use to move it to the front: while holding down the left Amiga key, press the N key.

Pushing Screens Behind Other Screens

To move a screen behind other, overlapping screens, select the screen's Back Gadget:

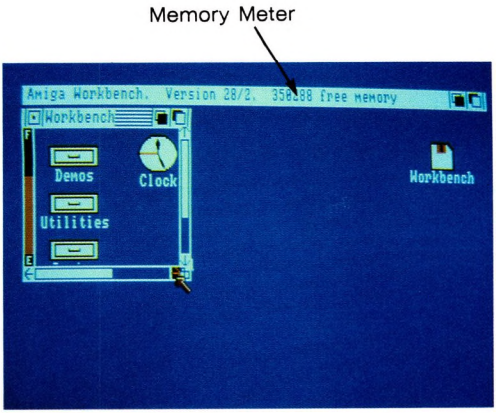




For the Workbench screen, there is a selection shortcut you can use to push it to the back: while holding down the left Amiga key, press the M key.

The Memory Meter

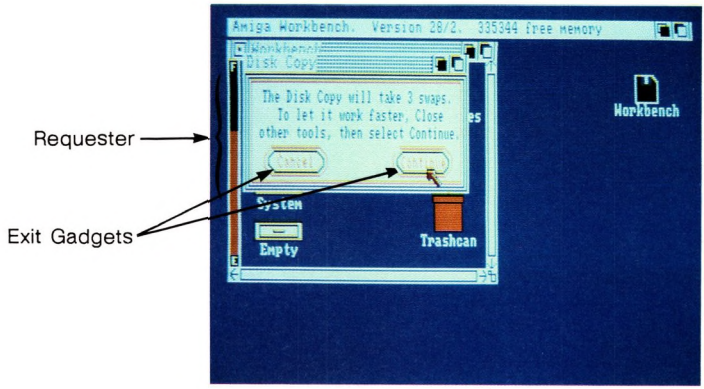
At the top of the Workbench screen is a *memory meter:*



The meter shows the amount of free *RAM* (*random-access memory*) available to you.

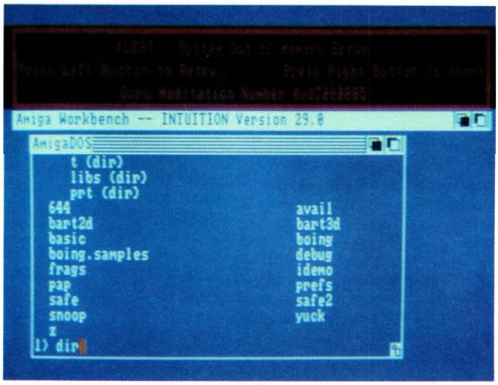
Operations Involving Requesters

A *requester* is an area within a window that a tool uses to communicate with you. Here is an example of a requester:



To respond to a requester, you use the gadget or gadgets it provides. Among the gadgets, there are always one or more *exit gadgets* that you select to close the requester. In many requesters, the "OK" gadget is an exit gadget. Many requesters also have a "Cancel" gadget you select if for any reason you don't want to perform an action.

Alerts are messages the Amiga provides if there is something seriously wrong with your Amiga or with the tools you're using. Here is an example of an alert:



If you get an alert, jot the information in it on a piece of paper if you can; it will help service people to diagnose the problem.

Operations Involving Disks

The following operations are those that involve disks.

Initializing Disks

To use a new disk with the Amiga, it must be *initialized*. If you copy a disk, the new disk is initialized as it receives the copy. To initialize a disk without making a copy, insert the disk in a disk drive, select the disk icon that appears on the Workbench, then choose Initialize from the Disk menu.

WARNING

Initializing a disk destroys any previous information stored on a disk.

Duplicating Disks

To duplicate a disk, select the icon for the disk, then choose Duplicate from the Workbench menu. Note that when you choose Duplicate, the Amiga makes use of only one disk drive even if there are two or more drives.

Copying Disks

To copy a disk, drag its icon over the icon for a disk that will receive the copy. If you have more than one disk drive, a requester will ask you to insert the disk you want to copy (the *source disk*) into one of the drives, and the disk to receive the copy (the *destination disk*) into another.

Drive 0 is the internal drive, Drive 1 is the external drive.

WARNING: Copying a disk destroys any previous information stored on the disk that receives the copy.

Moving a Tool, Project, or Drawer to a New Disk

To move a copy of a tool, project, or drawer to a new disk, open the disk to which you want to move it, then drag the icon into the window for the disk.

Renaming Disks

To rename a disk, select the icon for the disk, then choose Rename from the Workbench menu. A message then appears asking you for a new name. Select the window that appears, type in a name, then press the RETURN key.

Resetting the Workbench

Resetting the Workbench means to set it up again. When you do, you start again with only the Workbench; the Amiga's memory is cleared and **any work that was not saved is lost.** If a tool malfunctions, you may be forced to reset to resume work. To reset the Workbench, press the CTRL key and both Amiga keys simultaneously.

WARNING: Resetting the Workbench while a disk drive light is on may cause the disk in that drive to be incomplete--as the Amiga will be unable to complete pending writes to the disk. Use your judgement; typically a program that is making progress will not leave the disk drive light on for very long without also causing the drive to make the familiar noises it makes while in use.

Other Workbench Operations

There are three other tasks you perform on the Workbench. You choose each task—straightening up the Workbench icons, displaying the last error message, and *redrawing* the display—from the Special menu for the Workbench.

Cleanup

Choosing the Cleanup item from the Special menu straightens up icons in drawers that are currently selected.

Last Error

Choosing Last Error from the Special menu displays the last message that appeared in the Title Bar for the Workbench. Messages that appear in the Title Bar normally disappear as soon as you select something on the Workbench.

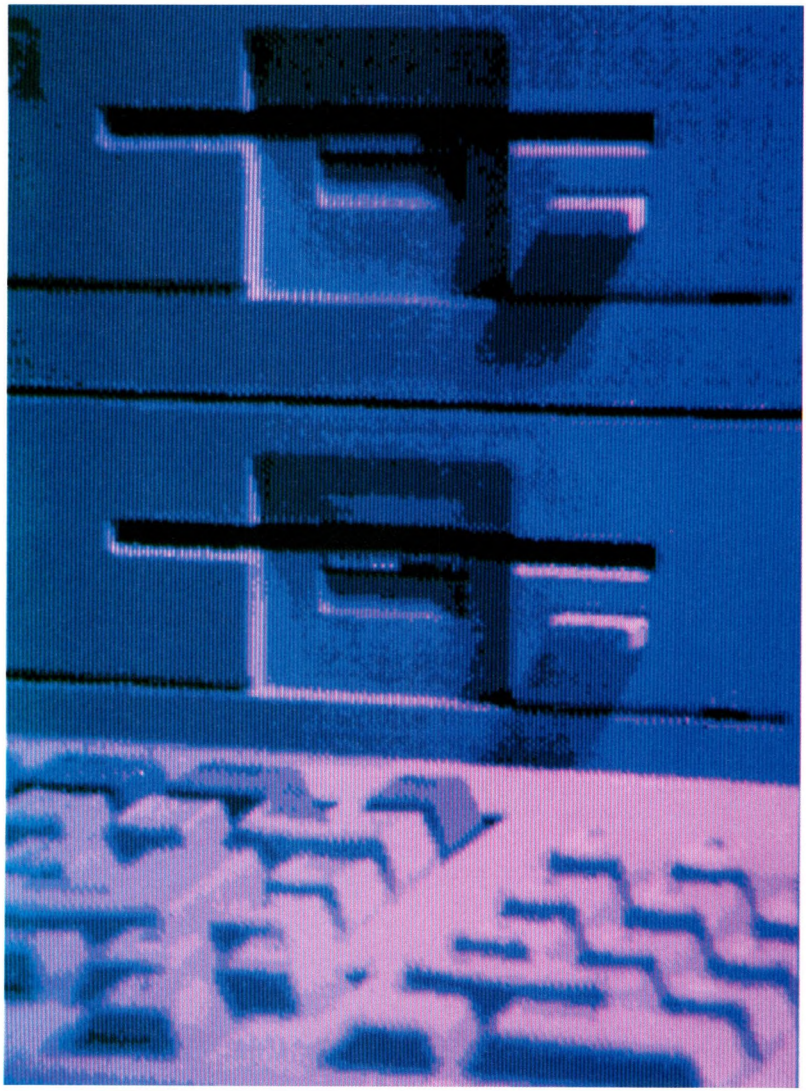
Redraw

Choosing Redraw redraws what appears on the screen. Should a tool malfunction, it may affect what appears in a screen. Choosing Redraw from the Special menu restores what appears on the Workbench screen if it has been disturbed.

Workbench Tools

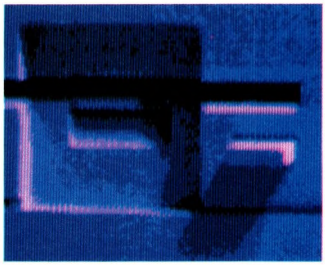
There are a number of tools that are provided on the Workbench disk:

- Preferences, the tool you use to change many of the Amiga's settings, is described in Chapter 7.
- A number of demonstrations are included in the Demos drawer on the Workbench disk.
- A *Clock* tool appears on the Workbench. Open it as you would any other tool—select its icon, then choose Open from the Workbench menu—and an analog clock appears in a window. You can move the clock, change its size, move it in front of or behind other windows, or close it using the gadgets in the window. To set the time, use Preferences.



Chapter 5

Adding to the Amiga



There are many ways you can add to your Amiga. You can make it more powerful by adding memory or an extra disk drive. Tools for business and entertainment let you use your Amiga in new and exciting ways. To print your projects, you can choose from several printers, including color printers.

In this chapter, you'll get a quick look at some currently available add-ons. Complete instructions for installing and using these add-ons are included with the add-ons. For more information, and for many add-ons not described here, see your Amiga dealer.

Precautions for Add-Ons

When attaching any add-on, **use only a cable that is specifically designed for the Amiga. Using a cable that is not properly wired for the Amiga may damage the add-on.** You can obtain cables designed for the Amiga from your Amiga dealer. If you wish to adapt other cables for use with the Amiga, see Chapter 7 for information about the proper connections.

Before you attach a cable to any of the connectors on the back of the main unit, turn off the Amiga. Attaching a cable when the Amiga is turned on may reset the Amiga. (This precaution does not apply to the connectors labeled "1" and "2" on the right side of the main unit; you can switch add-ons you attach to these connectors at any time.)

When using cables to attach any add-ons, including printers, be sure that the cables are shielded. Using unshielded cables can cause interference to radio and television reception. See Chapter 7 for more information about how to prevent and correct interference.

Adding Memory to the Amiga

With the *Amiga Memory Expansion Cartridge,* you can easily add an additional 256K of random-access memory to your Amiga. The cartridge slides into the front of the Amiga and takes only seconds to install. With the additional memory, you can:

- open additional tools and switch quickly between them.
- use tools that take advantage of extra memory. Many tools work faster when there is more memory available.
- use tools that require more than 256K of memory.

Adding a Disk Drive to the Amiga

The *Amiga External 3.5 Disk Drive* is identical in storage capacity and performance to the disk drive built into the Amiga. To attach this drive, you simply plug it into the external disk connector on the back of the Amiga. A second disk drive makes it easier and faster to perform many operations, such as copying disks.

Printers for the Amiga

There are four types of printers you can use with an Amiga:

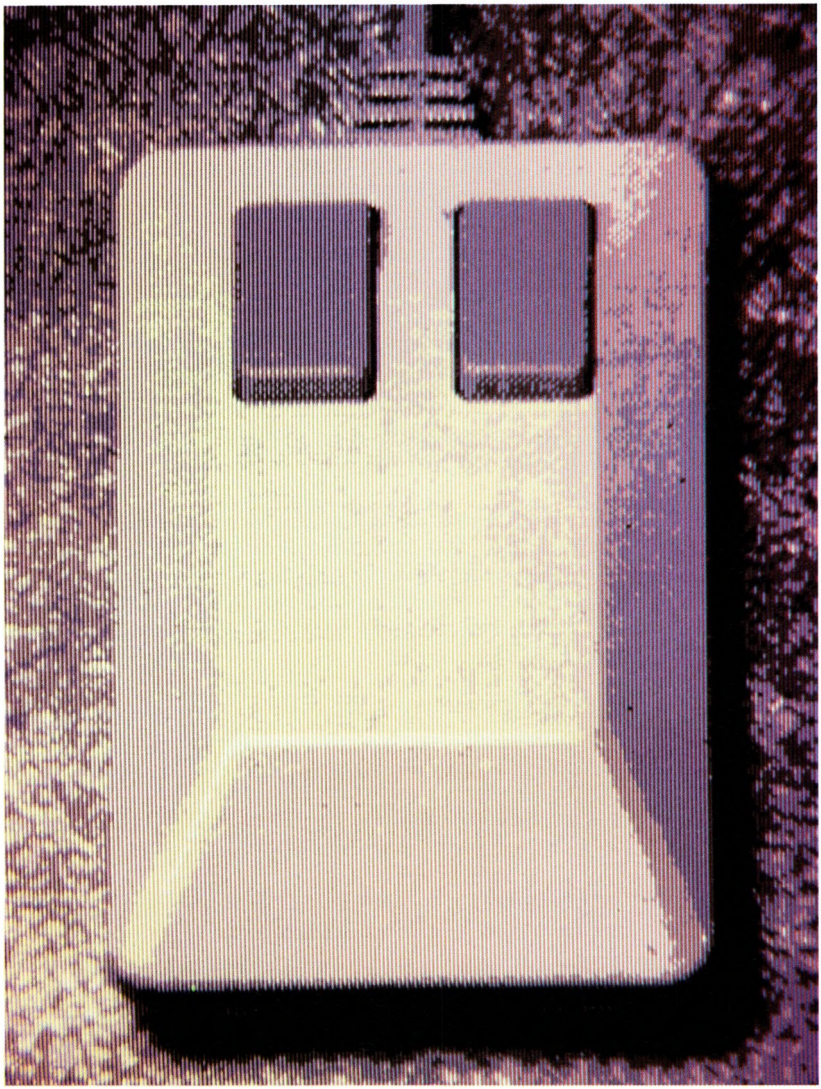
- the Epson® FX-80™ and RX-80™ and the CBM® MPS1000 dot-matrix printers. With these printers, you can produce both text and monochrome graphics.

- the Alphacom® Alphapro 101™, Brother® HR-15XL, Diablo® Advantage D25, Diablo® 630, and Qume® LetterPro 20™ letter-quality printers. These printers print text of a quality equal to that produced by high-quality typewriters. They are, however, slower than most dot-matrix printers and cannot print graphics.

- the Okimate 20™ and Epson® JX-80™ color printers. To use the Okimate 20 with the Amiga, you also need an Okidata "Plug 'n Print" cartridge designed to connect the Okimate 20 to the parallel port of an IBM® PC. The Okimate 20 and the Epson JX-80 can print color images from the Amiga, including paintings you create with Graphicraft™.

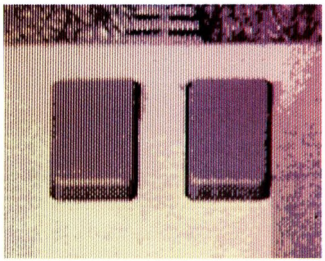
- the Diablo® C-150 color printer. This printer uses advanced ink-jet technology to produce high-quality color images.

You use the Preferences tool to tell the Amiga which printer you're using and to change a number of settings that affect printers. To learn about Preferences, see Chapter 7.



Chapter 6

Caring for the Amiga



Your Amiga needs very little care to keep it working at its best. Observe the precautions in this chapter to keep your Amiga in top shape.

Precautions

Keep the Amiga dry. Keep liquids away from the Amiga as you work. An accidental spill can seriously damage the Amiga.

Keep the Amiga out of direct sunlight. If the case gets too hot, the Amiga won't work reliably. Moreover, temperatures above 140 degrees Fahrenheit (60 degrees Celsius) can damage the Amiga's internal components. Keep it cool.

Keep connectors and the ends of cables clean. Food, especially sticky food, is the worst offender. Any substance that adheres to connectors or the ends of cables can prevent a good electrical connection or, worse, damage the connector.

Keep magnets away from the monitor. Although magnets won't damage the monitor, they can distort the video display. In addition to more obvious magnets, beware of magnets in telephones, loudspeakers, and electric motors. (Note that magnets CAN damage information on disks. Be sure to read "Taking Care of Disks" at the end of this chapter.)

Don't plug anything other than the keyboard into the keyboard connector. Plugging in anything else may damage the Amiga.

Don't put more than 40 pounds (18 kilograms) on top of the main unit. Most monitors weigh less than this, but there are televisions that weigh more.

Don't open the case. If your Amiga needs service, bring it to an Amiga dealer or an approved Amiga Service Center. Opening the case will void the warranty on your Amiga.

Use the mouse on a clean surface. The ball on the bottom of the mouse must be clean to work properly. If the mouse behaves erratically, it may need cleaning. The next section tells how to clean your mouse.

Cleaning the Mouse

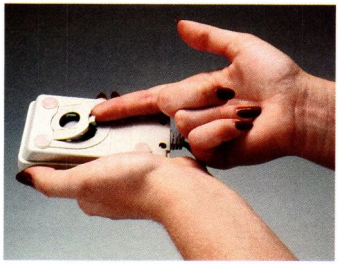
To keep the mouse working properly, give it an occasional cleaning. To clean the mouse, you'll need:

- a soft, dry, lint-free cloth
- alcohol or head cleaning fluid for tape recorders
- cotton swabs

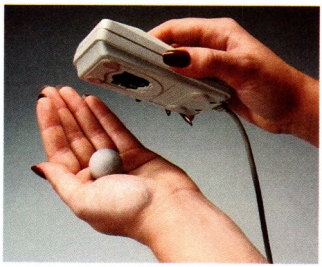
Cleaning the mouse takes just a couple of minutes. Here's how you do it:

Turn the mouse upside down with its cable toward you. Hold the mouse in both hands and put your thumbs under the two arrows on either side of the ball:

With your thumbs, push firmly in the direction of the arrows to open the cover for the mouse ball. With the mouse upside down, lift off the cover with a fingernail:



Put your hand over the opening, turn the mouse upside down, and catch the ball:



In the opening, you'll see three small metal rollers. Moisten a cotton swab with alcohol or head cleaning fluid and gently swab the surface of each roller. Turn each roller as you swab to clean it all the way around.

With the cloth, wipe off the mouse ball. (Don't use any liquid when cleaning the mouse ball.) When you're done, blow gently into the opening to remove any dust, replace the ball, and slide the cover for the ball back into place.

Taking Care of Disks

To protect the information on your disks, observe these precautions:

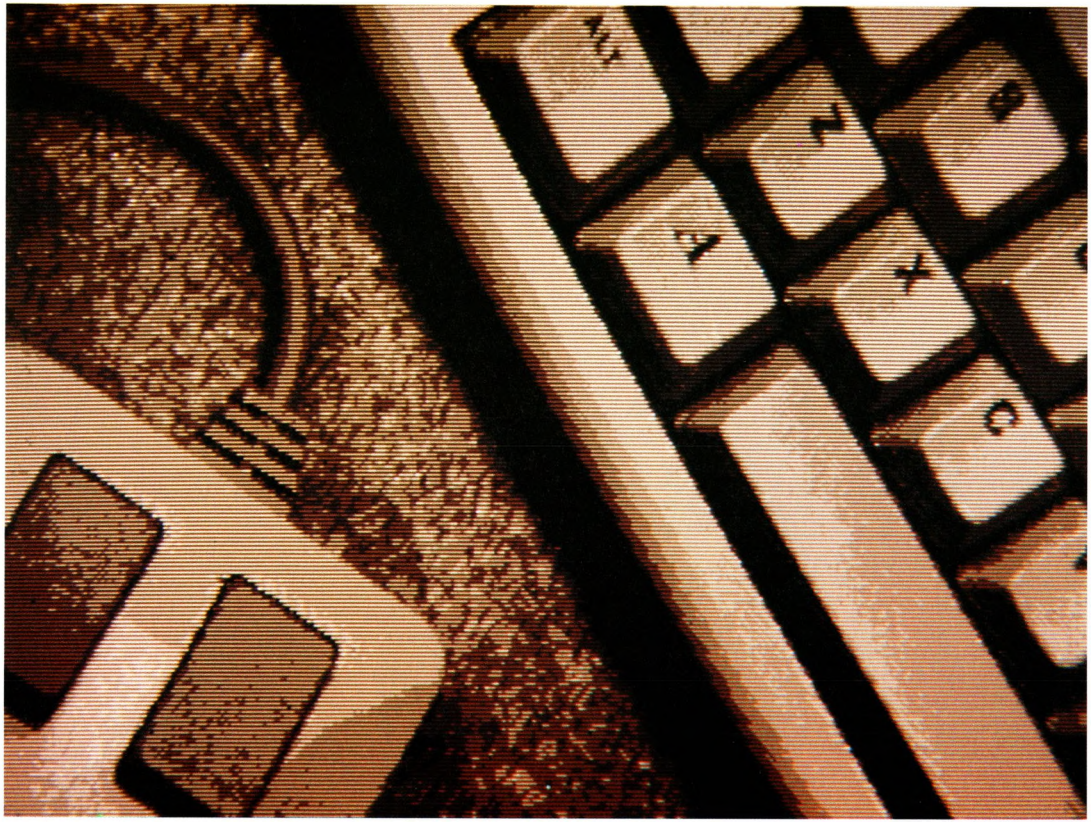
Keep disks away from magnets. Microdisks, like audio tapes, store information magnetically. Magnets can ruin the information on a disk. In addition to more obvious magnets, beware of magnets in telephones, loudspeakers, and electric motors.

Keep disks dry and away from extreme heat or cold. Microdisks are comfortable at about the same temperatures you are. Don't leave disks in direct sunlight, near heat sources, or in cars parked in the sun.

Don't touch the surface of the disk. A microdisk's metal cover closes automatically whenever you remove the disk from a disk drive. Don't touch the surface of the disk underneath the cover.

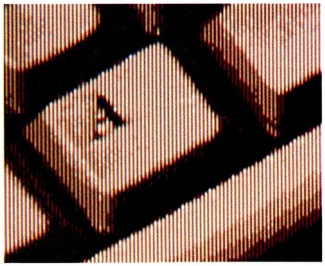
Make copies of important disks. The best insurance for the information on a disk is to make a copy of the disk and keep the copy in a safe place. Make a habit of copying an important disk each time you finish working with it.

Never remove a disk from a disk drive when the disk drive light is on. The disk drive light tells you that the Amiga is using a disk. Taking a disk out too soon may ruin the information on the disk.



Chapter 7

Reference

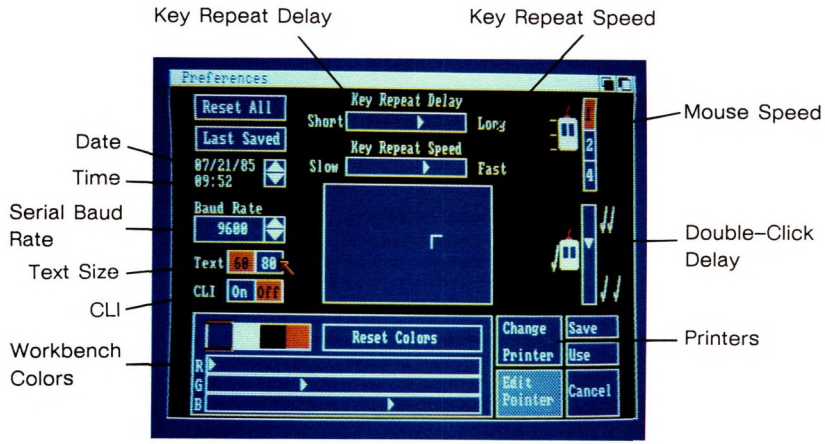


In this chapter, you'll find:

- a complete description of Preferences, the tool you use to change many of the settings of the Amiga
- descriptions of the Amiga input/output connectors
- information about radio and television interference
- specifications for the Amiga

Preferences

Preferences is a tool that lets you see and change many of the settings of your Amiga. These are the settings you can change with Preferences:



Date and Time

To change the date or time, first select the digit you want to change by pointing to it, then clicking the Selection button. With a digit selected, you can:

- select the up arrow to increase the selected digit by one
- select the down arrow to decrease the selected digit by one

The leftmost digits of the date are the number of the month, the middle digits are the day of the month, and the rightmost digits are the last two digits of the year. The time is shown using a 24-hour clock.

Note that if any of the numbers is as large as it can be, increasing it increases the value for the next larger interval of time. For example, if the value for the hours is 11 and the value for the minutes is 59, increasing the digit 9 for the minutes leaves you at 12:00. Conversely, decreasing a value that is as small as it can be decreases the value for the next smaller interval of time.

Key Repeat Speed

To make keys on the keyboard repeat more quickly when you hold down a key, drag the arrow on the slider labeled Key Repeat Speed to the right. To slow down the rate at which keys repeat, drag the arrow to the left.

Key Repeat Delay

When you hold down a key that repeats, there is a delay before the key begins repeating. To increase this delay, drag the arrow on the slider labeled Key Repeat Delay to the right. To decrease the delay, drag the arrow to the left.

Mouse Speed

The three settings for *mouse speed* let you change how far the Pointer moves when you move the mouse. The settings 1, 2, and 4 are the number of inches you move the mouse to move the Pointer roughly a third of the way across the display. The larger the number, the more room you need for the mouse.

Double-Click Delay

You use the *Double-Click Slider* to set the maximum length of time between the two clicks of a double-click. Drag the arrow down to increase the maximum length of time. Drag the arrow up to decrease the maximum time.

Text Size

To make the best use of your monitor, you can choose the size of the characters that appear on the display. Most NTSC monitors and televisions can show 60 characters clearly on each line of the display, while RGB monitors can display 80 characters clearly. If you have an NTSC monitor or television connected to the Amiga, select the gadget labeled 60 to the right of the word Text. If you have an RGB monitor connected to the Amiga, select the gadget labeled 80.

CLI

In addition to the Workbench, the Amiga includes another user interface, the Command Line Interface (CLI). To make an icon for the CLI appear in the System drawer on the Workbench, select the ON gadget immediately to the right of "CLI" on the Preferences screen. (To learn about the CLI, see the *AmigaDOS User's Manual.)*

Display Centering

To center the image on a video display, move the Pointer into the corner of the ⌜ symbol that appears in the *Display Centering Gadget,* hold down the Selection button, then move the mouse to change the position of the image.

Baud Rate

If you have an add-on connected to the serial connector of your Amiga, you can change the *baud rate*—the rate at which information is transferred through the serial connector—by selecting the arrows below and to the right of the words Baud Rate. The current baud rate is shown to the left of the arrows. Select the up arrow to increase the baud rate. Select the down arrow to decrease the rate.

Workbench Colors

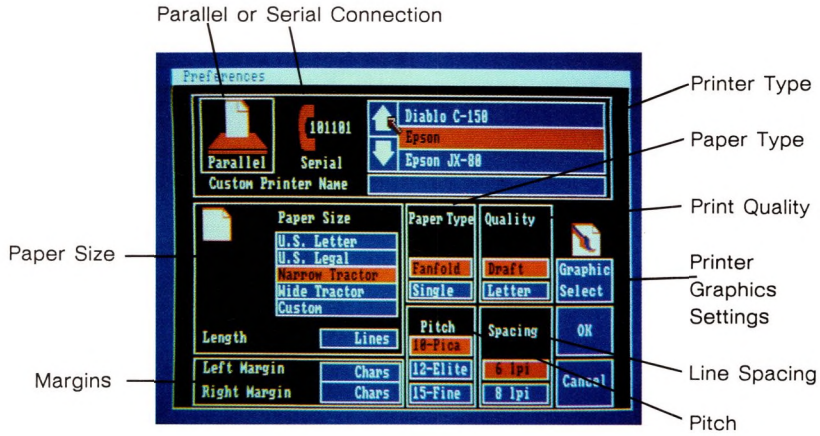
With Preferences, you can change any of the four colors displayed by the Workbench. Start by selecting the color you want to change from the four colors shown. Below these colors are three sliders labeled R, G, and B. These letters stand for red, green, and blue, the colors that the Amiga combines to create the colors it displays. To modify the color you've selected, you change the amount of red, green, and blue in the color by dragging the arrows along the sliders.

Try dragging the arrows in the sliders and watch how the color changes. With a bit of practice, you'll be able to get the colors you want.

To get back the original Workbench colors (the ones displayed when you inserted the original Workbench disk that came with the Amiga), select the gadget labeled Reset Colors.

Printers

If you've attached a printer to the Amiga, you need to tell the Amiga the type of printer you've attached. You do this by selecting Change Printer. When you do, the *Printer Requester* appears:



In this requester, you can select:

- **Printer Type.** The names of printers supported by the Amiga appear in the upper right of the requester. To indicate the printer you're using, select either the up arrow or down arrow until the the name of your printer is highlighted.

  Makers of other printers may provide information on disk that allows you to use their printers with the Amiga. If the instructions for your printer state that you are to indicate a project containing this information, select Custom from the list of printers, then select the gadget immediately to the right of the words Custom Printer Name. Type in the name of the

project indicated in the instructions, then press the RETURN key on the keyboard.

- **Parallel or Serial Connection.** If your printer is attached to the parallel connector on the Amiga, select the gadget labeled Parallel at the upper left of the requester. If it's attached to the serial connector, select the gadget labeled Serial.

- **Paper Size.** There are four preset sizes you can select from: US Letter (8-1/2 inches wide, 11 inches tall), US Legal (8-1/2 inches wide, 14 inches tall), Narrow Tractor (9-1/2 inches wide, 11 inches tall), and Wide Tractor (14-7/8 inches wide, 11 inches tall).

  You can use other sizes of paper by selecting Custom. When you select Custom, you must also specify the number of lines that fit on the size of the paper you're using. To do this, select the gadget labeled Length just below the paper sizes, type in the number of lines, then press the RETURN key on the keyboard.

- **Left and Right Margins.** You indicate the width of these margins by specifying numbers of characters from the left-hand edge of the paper. To specify the width of the left margin, select the gadget to the right of the words Left Margin, type in the width, in characters, of the left margin, then press the RETURN key. To specify the width of the right margin, select the gadget to the right of the words Right Margin, type in the width, in characters, for the distance from the left-hand edge of the paper to where the right margin begins, then press the RETURN key.

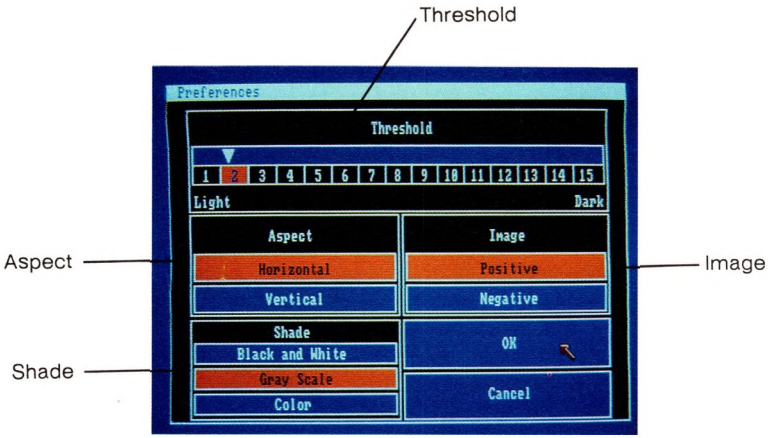
- **Paper Type.** Select Fanfold if you're using continuous-feed paper. Select Single if you're printing on individual sheets.

- **Quality.** For faster but lower-quality printing, select Draft. For higher-quality printing, select Letter.

- **Pitch.** You use this to select the size of the characters that are printed. You can select from among 10 pitch ("pica"), 12 pitch ("elite"), and 15 pitch ("fine").

- **Spacing.** This lets you select how closely lines are printed on the page. Select either 6 or 8 lines per inch ("lpi").

There is an additional gadget in this requester labeled Graphic Select. Selecting this gadget opens the *Printer Graphics Requester:*



You use this requester to select different ways to print images:

- **Shade** lets you select color printing, gray-scale printing (where colors are represented by different shades of gray), or back-and-white printing (where some colors are printed as pure black, and others as pure white. Whether a color is printed as black or white is determined by the *threshold value* described below.)

- **Aspect** lets you select whether to print normally or "sideways" on the page. Select Horizontal to print "normally," so that what appears on the top of the display appears along the top edge of the printer paper. Select Vertical to print what appears on the top of the display along the side of the printer paper.

- **Image** lets you print an image as it appears on the display (by selecting Positive) or "reversed" (by selecting Negative). This setting affects only black-and-white and gray scale printing.

- **Threshold**, for black-and-white printing, lets you determine which colors are printed as white, and which as black. You change the Threshold setting by dragging the arrow in the slider below the label Threshold. When the setting for Image is Positive and the Threshold setting is 2, only the darkest color on the display is printed as black, while the rest is white. Increasing the value of the Threshold setting causes more colors to be printed as black. As you increase the setting, the lighter colors are printed as black.

  When the setting for Image is Negative, the higher the Threshold setting, the lighter are the colors that are printed as black.

Note that not all these choices apply to all printers. For example, letter-quality printers that use a "daisy wheel" printhead can only produce one quality of printing. To find out what selections apply to your printer, see the documentation provided with the printer.

When you're done making selections for your printer, select OK to confirm your selections or Cancel to cancel them. Selecting either OK or Cancel returns you to the Preferences window.

Getting Back Preferences

If you'd like to get back the Preferences settings that came with the original Workbench disk, select Reset All. If you'd like to get back the last Preferences settings you saved, select Last Saved.

Using and Saving Preferences

When you're done with Preferences, select one of the gadgets at the lower right of the window. Select Save if you want your settings to take effect now and each time you start up the Workbench with the Workbench disk you're currently using. Selecting Save saves your settings on the Workbench disk. Select Use if you want your settings to take effect now, but you don't want to save the settings on the Workbench disk for future use. If you change the settings, then decide you don't want them to take effect, select Cancel.

Because each Workbench disk keeps its own Preferences settings, different people can save their own settings on separate Workbench disks. To get back your settings, just set up the Workbench using the disk on which you've saved them.

Input/Output Connectors

This section lists pin assignments for several input/output connectors on the Amiga. The information in this section is highly technical and is intended only for those expert in connecting external devices to computers. You do not need this information if you use a cable specifically designed for use with the Amiga and the add-on you want to connect.

For information about connectors not described in this section, see the *Amiga Hardware Manual*.

If you attach add-ons with cables other than those designed for use with the Amiga, note: **some pins on Amiga connectors provide power outputs and non-standard signals. Attempting to use cables not wired specifically for the Amiga may cause damage to the Amiga or to the equipment you connect.** The descriptions below include specific warnings for each connector. For more information about connecting add-ons, consult your Amiga dealer.

In the descriptions that follow, an asterisk (*) at the end of a signal name indicates a signal that is active low.

Serial Connector

In the following table, the second column from the left gives the Amiga pin assignments. The third and fourth columns from the left give pin assignments for other commonly used connections; the information in these two columns is given for comparison only.

WARNING: **Pins 14, 21, and 23 on the Amiga serial connector are used for external power. Connect these pins ONLY if power from them is required by the external device.** The table lists the power provided by each of these pins.

Pin	Amiga	RS232	HAYES®	Description
1	GND	GND		FRAME GROUND
2	TXD	TXD	TXD	TRANSMIT DATA
3	RXD	RXD	RXD	RECEIVE DATA
4	RTS	RTS		REQUEST TO SEND
5	CTS	CTS	CTS	CLEAR TO SEND
6	DSR	DSR	DSR	DATA SET READY
7	GND	GND	GND	SYSTEM GROUND
8	CD	CD	CD	CARRIER DETECT
9				
10				
11				
12		S.SD	SI	
13		S.CTS		
14	-5V	S.TXD		-5 VOLT POWER (50 mA)
15	AUD0	TXC		AUDIO OUT OF AMIGA
16	AUD1	S.RXD		AUDIO INTO AMIGA
17	EB	RXC		BUFFERED PORT CLOCK
18	INT2*			INTERRUPT LINE TO AMIGA
19		S.RTS		
20	DTR	DTR	DTR	DATA TERMINAL READY
21	+5V	SQD		+5 VOLT POWER (100 mA)
22		RI	RI	
23	+12V	SS		+12 VOLT POWER (50 mA)
24	C2*	TXC1		3.58 MHZ CLOCK
25	RESB*			BUFFERED SYSTEM RESET

Parallel Connector

WARNING: Pin 23 on the Amiga parallel connector supplies +5 volts of power. Connect this pin ONLY if the power from it is required by the external device. NEVER connect this pin to an output of an external device or to a signal ground.

Pins 14–22 are for grounding signals. DO NOT connect these pins directly to a shield ground.

Pin	Name	Description
1	DRDY*	DATA READY
2	D0	DATA BIT 0 (Least significant bit)
3	D1	DATA BIT 1
4	D2	DATA BIT 2
5	D3	DATA BIT 3
6	D4	DATA BIT 4
7	D5	DATA BIT 5
8	D6	DATA BIT 6
9	D7	DATA BIT 7
10	ACK*	ACKNOWLEDGE
11	BUSY	BUSY
12	POUT	PAPER OUT
13	SEL	SELECT
14	GND	SIGNAL GROUND
15	GND	SIGNAL GROUND
16	GND	SIGNAL GROUND
17	GND	SIGNAL GROUND
18	GND	SIGNAL GROUND
19	GND	SIGNAL GROUND
20	GND	SIGNAL GROUND
21	GND	SIGNAL GROUND
22	GND	SIGNAL GROUND
23	+5V	+5 VOLTS POWER (100 mA)
24		
25	RESET*	RESET

RGB Monitor Connector

WARNING: Pins 21, 22, and 23 on the RGB monitor connector are used for external power. Connect these pins ONLY if power from them is required by the external device. The table lists the power provided by each of these pins.

Pin	Name	Description
1	XCLK*	EXTERNAL CLOCK
2	XCLKEN*	EXTERNAL CLOCK ENABLE
3	RED	ANALOG RED
4	GREEN	ANALOG GREEN
5	BLUE	ANALOG BLUE
6	DI	DIGITAL INTENSITY
7	DB	DIGITAL BLUE
8	DG	DIGITAL GREEN
9	DR	DIGITAL RED
10	CSYNC*	COMPOSITE SYNC
11	HSYNC*	HORIZONTAL SYNC
12	VSYNC*	VERTICAL SYNC
13	GNDRTN	RETURN FOR XCLKEN*
14	ZD*	ZERO DETECT
15	C1*	CLOCK OUT
16	GND	GROUND
17	GND	GROUND
18	GND	GROUND
19	GND	GROUND
20	GND	GROUND
21	−5V	−5 VOLTS POWER (50 mA)
22	+12V	+12 VOLTS POWER (175 mA)
23	+5V	+5 VOLTS POWER (300 mA)

TV Modulator Connector

WARNING: Pin 7 on the TV modulator connector supplies +12 volts of power. Connect this pin ONLY if power from it is required by the external device.

Pin	Name	Description
1		
2	GND	GROUND
3	AUDIO LEFT	LEFT AUDIO CHANNEL
4	COMP VIDEO	COMPOSITE VIDEO OUTPUT
5	GND	GROUND
6		
7	+12V	+12 VOLTS POWER (60 mA)
8	AUDIO RIGHT	RIGHT AUDIO CHANNEL

Mouse/Game Controller Connectors

There are connectors labeled "1" and "2" on the right side of the Amiga. If you use a mouse to control the Workbench, you must attach it to connector 1 (the connector closest to the front of the Amiga). You can attach game controllers to either of the connectors. To use a light pen, you must attach it to connector 1. The following tables describe mouse, game controller, and light pen connections.

WARNING: Pin 7 on each of these connectors supplies +5 volts of power. Connect this pin ONLY if power from it is required by the external device.

Connectors 1 and 2: Mouse Connections

Pin	Name	Description
1	MOUSE V	MOUSE VERTICAL
2	MOUSE H	MOUSE HORIZONTAL
3	MOUSE VQ	VERTICAL QUADRATURE
4	MOUSE HQ	HORIZONTAL QUADRATURE
5	MOUSE BUTTON 2	MOUSE BUTTON 2
6	MOUSE BUTTON 1	MOUSE BUTTON 1
7	+5V	+5 VOLTS POWER (125 mA)
8	GND	GROUND
9	MOUSE BUTTON 3	MOUSE BUTTON 3

Connectors 1 and 2: Game Controller

Pin	Name	Description
1	FORWARD*	CONTROLLER FORWARD
2	BACK*	CONTROLLER BACK
3	LEFT*	CONTROLLER LEFT
4	RIGHT*	CONTROLLER RIGHT
5	POT X	HORIZONTAL POTENTIOMETER
6	FIRE*	CONTROLLER FIRE
7	+5V	+5 VOLTS POWER (125 mA)
8	GND	GROUND
9	POT Y	VERTICAL POTENTIOMETER

Connector 1: Light Pen Connections

Pin	Name	Description
1		
2		
3		
4		
5	LIGHT PEN PRESS	LIGHT PEN TOUCHED TO SCREEN
6	LIGHT PEN*	CAPTURE BEAM POSITION
7	+5V	+5 VOLTS POWER (125 mA)
8	GND	GROUND
9		

Radio and Television Interference

Your Amiga generates and uses radio frequency energy. If it not installed and used properly, that is, in strict accordance with the instructions in this manual, it may cause interference to radio and television reception. The Amiga has been certified to comply with the limits for a Class B computing device, pursuant to subpart J of Part 15 of the Federal Communication Commission's rules, which are designed to provide reasonable protection against radio and television interference in a residential installation. If you suspect interference, you can test the Amiga by turning it off and on. If the Amiga does cause interference, try the following:

- Reorient the antenna or AC plug on the radio or television.
- Change the relative positions of the Amiga and the radio or television.
- Move the Amiga farther away from the radio or television.
- Plug either the Amiga or the radio or television into a different outlet so that the Amiga and the radio or television are on different circuits.

Use only shield-grounded cables when connecting peripherals (computer input-output devices, terminals, printers, etc.) to the Amiga. All peripherals must be certified to comply with Class B limits. Operation with non-certified peripherals is likely to result in interference to radio and television reception.

Your house AC wall receptacle must be a three-pronged type (AC ground). If not, contact an electrician to install the proper receptacle. If a multi-connector box is used to connect the computer and peripherals to AC, the ground must be common to all units.

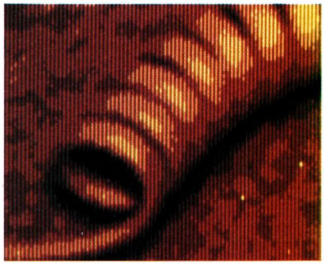
If necessary, consult your Amiga dealer or an experienced radio-television technician for additional suggestions. You may find the following FCC booklet helpful: "How to Identify and Resolve Radio-TV Interference Problems." The booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, stock no. 004–000–00345–4.

Amiga Specifications

Central Processor	Motorola MC68000
Memory	256K bytes RAM expandable to 512K
Disks	3-1/2 inch double-sided microdisks with 880K bytes formatted storage capacity per disk
Mouse	Mechanical, .13 mm/count (200 counts per inch)

Interfaces	RS-232 serial interface
	Centronics®-compatible parallel interface
	External disk interface
	Mouse/Game controller interface
	Additional game controller interface
	Keyboard interface
	Two audio outputs for stereo sound
	Memory cartridge interface
	Expansion interface
Supported Monitors	RGB, NTSC (composite video), and standard televisions
Power Requirements	99 to 121 volts AC 54 to 66 Hz
Temperature Requirements	For operation: 5 to 45 degrees Celsius (41 to 113 degrees Fahrenheit)
	For storage: –40 to 60 degrees Celsius (–40 to 140 degrees Fahrenheit)
Humidity Requirements	20% to 80% relative humidity, non-condensing
Maximum Weight the Main Unit Can Support	40 pounds (18 kilograms)

Glossary



add-on — A printer, game controller, modem, or other external component you use with an Amiga.

alert — A message displayed when there is a serious problem with an Amiga.

ALT key — One of two **keys** next to the **Amiga keys** at the bottom of the **keyboard.**

Amiga keyboard — The **keyboard** similar to a typewriter's attached to an Amiga.

Amiga keys — Two **keys** on an **Amiga keyboard** to the left and right of the **Space Bar.** You use the left Amiga key for **selection shortcuts** and the right Amiga key for **menu shortcuts.** You also use the Amiga keys when operating the Amiga without a **mouse.**

Amiga Memory Expansion Cartridge — A cartridge you plug into the front of the Amiga to add 256K of **memory.**

Amiga Monitor — An **RGB monitor** made for use with the Amiga.

audio signal — The output from one of the two audio **connectors** on the Amiga.

available menu item — An **item** in a **menu** that you can **choose.**

Back Gadget — A **gadget** you **select** to move a **window** or **screen** behind other windows or screens that overlap it.

cable — A set of insulated wires used either to connect the parts of the Amiga or to connect **add-ons** to the Amiga.

choose — To pick a **menu item.** You normally choose menu items with the aid of the **Menu button.**

chosen option — An **option** that is currently in effect.

click — **1.** To **press** and **release** a **mouse button.** **2.** The action you perform when you click.

Clock — A **tool** that lets you display the time on the **Workbench.**

close — **1.** To remove a **window, requester,** or **screen** from the **display.** **2.** To put away a **tool** or **project.**

Close Gadget — A **gadget** that you **select** to **close** a **window** or **screen.**

Color Palette — The set of colors available in a **screen.**

column — A set of adjoining **pixels** or characters that form a vertical line on the **video display.**

command — A **menu item** that, when you **choose** it, instructs the Amiga to perform a task. Compare **option.**

composite video monitor — *See* **NTSC monitor**

connector — Any of the places on the outside of the Amiga which you use to attach external equipment.

copy — To replicate a **tool, project, drawer,** or **disk.**

cursor key — One of four **keys** with an arrow on top at the right of the **keyboard.** You press these keys either to move the **Text Cursor** or, by pressing an **Amiga key** at the same time, to move the **Pointer.**

custom screen — A **screen** created by a **tool** for its own use and, optionally, for use by other tools.

cut — To remove part of a **project** and place it on the **Clipboard.** Compare **erase.**

destination disk — When **copying disks,** the disk that receives the copy. *Compare* **source disk.**

discard — To dispose of a **project, tool,** or **drawer** by putting it in the **Trashcan.**

disk — A medium for storing and retrieving information.

disk drawer — A **drawer** that contains the contents of a **disk.**

disk drive — A device for reading information from and saving information on a **disk.**

disk drive light — A light on the front of a **disk drive** that shows when the **disk** cannot safely be removed.

disk gauge — A indicator at the left of the **window** for a open **disk** that shows how much free storage is available.

display — That which appears on a **video monitor** or television.

Display Centering Gadget — A **gadget** provided by **Preferences** for centering the image on the **display.**

double click — The action you perform when you quickly **press** and **release** a **mouse button** twice.

double-click — To quickly **press** and **release** a **mouse button** twice.

Double-Click Slider — A **gadget** provided by **Preferences** for changing the maximum length of time between the two **clicks** of a **double click.**

drag — To move an **icon**, **gadget**, **window**, or **screen** by putting the **Pointer** over what you want to move, **holding down** the **Selection button**, and moving the **mouse.**

Drag Bar — That portion of a **Title Bar** that contains no **gadgets.** You **drag** the Drag Bar to move a **window** or **screen.**

drawer — A place where **tools**, **projects**, and other drawers are kept.

edit — To change the contents of a **project.**

empty — To remove from the **Trashcan** any **projects**, **tools**, or **drawers** you've **discarded.** When you empty the Trashcan, you can no longer get back any of the projects, tools, or drawers that were in it.

erase — To remove part of a **project** without putting what you've removed on the **Clipboard.** Compare **cut.**

exit gadget — A **gadget** in a **requester** that you **select** to **close** the **requester.**

Extended Selection — A technique for **selecting** more than one **icon** or **gadget** at a time. To use it, you **select** with the **Shift key** held down.

Extras disk — One of three **microdisks** packaged with the Amiga.

feature — A noteworthy property of a **tool.**

Front Gadget — A **gadget** that you **select** to move a **window** or **screen** to the front of other windows or screens that overlap it.

gadget — Any of the facilities provided within a **window, requester,** or **screen,** such as **Scroll Bars, Sizing Gadgets,** and **Close Gadgets,** that you use to change what's being displayed or to communicate with a **tool.**

ghost [adj.] — Displayed less distinctly to indicate unavailability.

ghost gadget — An **gadget** that is displayed less distinctly to indicate that it is not currently available.

ghost icon — An **icon** that is displayed less distinctly to indicate that it is not currently available.

ghost menu item — A **menu item** that is displayed less distinctly to indicate that it is not currently available.

Graphicraft — The Amiga graphic arts **tool.**

highlight — To display something in a way that distinguishes it. Normally, something is highlighted to indicate that it is **selected.**

hold down — To press a **mouse button** without **releasing** it.

icon — A visual representation of a **tool, project, drawer,** or **disk.**

initialize — To prepare a **disk** so that it can be used by an Amiga.

item = menu item

key — Any of the switches on a **keyboard.**

Key Repeat Slider — A **gadget** provided by **Preferences** for changing the speed at which **keys** on the **keyboard** repeat when you hold them down.

keyboard — A set of **keys** used for typing or for giving other information to an Amiga.

keyboard cable — The **cable** used to connect the **keyboard** to the **main unit.**

keyboard connector — The **connector** on the **main unit** to which you attach the **keyboard cable.**

Kickstart disk — A **microdisk** that contains information an Amiga needs to begin operating.

Look Again — A **gadget** in **Open Reqesters** that you **select** to update the **Project List.**

main unit — The largest component packaged with the Amiga. The main unit contains the central processor and other circuitry, **memory**, and an internal **disk drive.**

memory — Electronic circuits used to store information.

memory meter — The indicator in the Title Bar for the Workbench screen that shows the amount of free RAM in bytes.

menu — A list of items you can choose from.

Menu Bar — A strip at the top of a **screen** that contains **menu titles.** The menu bar for the **selected window** appears when you hold down the **Menu button.**

Menu button — The right-hand button on the **mouse.**

menu item — One of the choices in a **menu.**

menu shortcut — A way of choosing a **menu item** by pressing a **key** on the **keyboard** while holding down the right **Amiga key.**

menu title — The name that for a **menu** that appears in the **Menu Bar.**

microdisk — A 3 1/2-inch flexible **disk.**

mouse — A device you move on a flat surface to move the **Pointer.**

mouse ball — The ball on the bottom of the **mouse** that rolls as you move the mouse.

mouse button — One of the two buttons on a **mouse.**

mouse speed — A option provided by **Preferences** for varying how many inches you must move the **mouse** to move the **Pointer** roughly a third of the way across the **display.**

Multiple Choice — A technique for **choosing** more than one **option** at a time. To use it, you **hold down** the **Menu button,** then **click** the **Selection button** with the **Pointer** over the options you want.

Notepad — A **tool** provided with the **Workbench** for writing short messages.

NTSC monitor — A type of color monitor that can be used with the Amiga.

OK Gadget — A **gadget** in a **requester** that you **select** to carry out what you've asked for in the requester.

open

1. To display a **window, requester,** or **screen.**
2. To make a **tool** or **project** available.

Open Requester — A **requester** from which you **select** a **project** you want to **open.**

option — A **feature** of a **tool** that, once you **choose** it, persists until you choose another, mutually exclusive feature.

palette = color palette

parallel port — A **connector** on the back of the Amiga that you use to attach printers and other **add-ons.**

paste — To copy the contents of the **Clipboard** into a **project.**

peripheral = add-on

pixel — One of the small elements that together make up the **video display.**

pixel color — The color of a **pixel** on the **display.**

point — To position the tip of the **Pointer** over an object on the **display.**

Pointer — The thing that moves on the **display** when you move the **mouse.** You use the Pointer to (1) **select icons** and **gadgets** (2) **choose menu items.**

pop-up requester — A **requester** that you **open** by **double-clicking** the **Menu button.**

port — A **connector** for attaching **add-ons** to the Amiga.

Preferences — A **tool** that allows you to change various settings of an Amiga, including the time, the **Workbench font,** the speed that keys on the keyboard repeat when you hold them down, and the interval before keys begin repeating.

press — To push down a **mouse button** or **key** on a keyboard.

Printer Requester — A **requester** provided by **Preferences** that you use to change printer settings.

project — A place where information created or used by a **tool** is kept. An example of a project is a note you write with the **Notepad.**

Project disk — A **disk** used to store **projects.**

Project List — The list of **projects** you can **open** from an **Open Requester.**

protect — To prevent the contents of a **project, tool, drawer,** or **disk** from being changed.

protect tab — A plastic tab on a **microdisk** that, when you slide it so that there is a hole through the disk, prevents the information on that disk from being changed.

protected disk — A **disk** whose contents cannot be modified.

RAM = random-access memory

random-access memory — **Memory** whose contents can be changed while the computer is operating.

release — To stop **pressing** or **holding down** a **mouse button.**

rename — To change the name of a **tool, project, disk, or drawer.**

Repeat Delay Slider — A **gadget** provided by **Preferences** for changing how long it takes for a **key** on the **keyboard** to repeat when you hold it down.

requester — A rectangular region in a **screen** which you use to give information to a **tool.** When a requester appears, you must select a **gadget** in the requester to **close** the requester before you can do anything else in the **window** in which the requester appears.

reset — To **set up** the **Workbench** again after it has begun working.

resolution — On a **video display**, the number of **pixels** that can be displayed in the horizontal and vertical directions.

reverse video — Displayed using colors opposite those normally used. For example, if letters are normally black on a white background, white letters on a black background are said to be shown in reverse video.

RGB connector — The **connector** on the back of the **main unit** that you use to attach an **RGB monitor** to the Amiga.

RGB monitor — A **video monitor**, such as the **Amiga Monitor**, that interprets signals for red, green, and blue to create colors.

row — A set of adjoining **pixels** that form a horizontal line on the **video display.**

save — To copy the contents of a project onto a **disk.**

screen — A full-width area of the **video display** with the same **color palette, resolution,** and other attributes.

scroll — To move the contents of a **project** within a **window.**

Scroll Arrows — Arrows at both ends of a **Scroll Bar.** To move slowly forward through a **project,** put the **Pointer** over the bottom Scroll Arrow and hold down the **Selection button.** To move slowly backward through a project, put the **Pointer** over the top Scroll Arrow and hold down the **Selection button.**

Scroll Bar — A **gadget** you use to display different parts of a **project.**

Scroll Box — The rectangular area within a **Scroll Bar** that you drag to move rapidly from one part of a **project** or list to another.

submenu — An additional **menu** that appears to the side of a menu.

submenu title — An item in a **menu** that, when you place the **Pointer** over it, causes a **submenu** to appear.

select — To pick an **icon, gadget,** or a part of a **project** using the **Selection button.**

Selection button — The left-hand button on the **mouse.**

selected option — An **option** that is currently in effect.

selected window — The **window** that you do work in. Only one window can be selected at a time.

selection shortcut — A quick way to **select** something by pressing a **key** on the **keyboard** while holding down the left **Amiga key.**

serial port — A **connector** on the back of the Amiga which you use to attach **modems** and other **add-ons.**

set up — To start the **Workbench**.

shortcut — A quick way, from the **keyboard**, to (1) **choose** a **menu item** (2) **select** an **icon** or **gadget.** See **menu shortcut** and **selection shortcut.**

size — To change the dimensions of a **window** or **screen.**

Sizing Gadget — A **gadget** you **drag** to change the size of a **window.**

slider — A **gadget** you use to pick a value within a range, normally by **dragging** an arrow along a line.

source disk — When **copying disks**, the disk that is being copied. *Compare* **destination disk.**

Space Bar — The long **key** at the bottom of the **keyboard** that you **press** to enter a blank space.

Text Cursor — In **projects** containing text, a marker that indicates your position in the project.

timesaver — Any technique provided by a tool to save you time. A **shortcut** is one kind of timesaver; another is double-clicking the **Menu button** to get a **pop-up requester.**

Title Bar — A strip at the top of a **screen** or **window** that contains the name of the screen or window.

Title Gadget — A **gadget** in **Open Requesters** that you use to type in the title of the **project** you want to open.

tool — A facility for working with information. For example, the **Graphicraft** tool lets you create and change visual information that takes the form of a **painting.**

Trashcan — The place where you put **projects**, **tools**, and **drawers** to **discard** them.

TV modulator — A device used to connect a television set to an Amiga.

TV modulator cable — A **cable** you use to connect the **TV modulator** to the **TV switch box.**

TV switch box — A device that allows you to connect both an Amiga and an antenna to a television and switch between them.

type font — A set of letters, numbers, and symbols that are the same **type size** and of the same **typeface.**

type size — The size of text.

type style — A variation of a **typeface**, such as italic or bold.

typeface — A set of letters, numbers, and symbols that share the same design.

unavailable menu item — Any **item** in a **menu** that you cannot **choose.** Unavailable menu items are shown as **ghost items.**

video cable — The **cable** you use to connect an **RGB monitor** to an Amiga.

video equipment — A **video monitor** or television.

video monitor — A device for displaying visual information from an Amiga.

Wait Pointer — A special shape for the **Pointer** that indicates that you must wait before continuing.

window — A rectangular area in a **screen. Tools** use windows to accept and present information.

Workbench — A **tool** you use to get and manipulate the facilities of the Amiga. You use the Workbench to **open, close, move,** create, and delete **projects, tools** and **drawers,** to **copy disks,** as well as to perform other operations.

Workbench disk — A **disk** that contains the Workbench.

Workbench screen — The **screen** used by the **Workbench** and other tools.

working disk

A copy of an original disk that came with the Amiga or with a tool.

"Y" adapter

An adapter that lets you combine both of the audio signals from an Amiga into a single audio signal. You use this adapter to connect the **Amiga Monitor** to an Amiga.

Index

AC power cord 2–1
adding to the Amiga 5–1
add–ons 5–2
add–ons
  attaching a printer 7–6
  cables for 5–2
  precautions for 5–2
alerts 4–30
ALT key
  using menus with 3–14
Amiga
  adding to 5–1
  assembling 2–1
  caring for 6–1
  specifications for 7–18
Amiga Basic 1–3
Amiga External 3.5 Disk Drive 5–3
  connector for 2–2
Amiga Hardware Manual 7–10
Amiga key, left
  selecting with 3–10
Amiga keys
  moving Pointer with 3–8
Amiga Memory Expansion Cartridge 5–2
Amiga ROM Kernel Manual 1–3
Amiga Service Centers 6–2
AmigaDOS Developer's Manual 1–3
AmigaDOS Technical Reference Guide 1–3
AmigaDOS User's Manual 1–3
Aspect (printer setting) 7–9
assembling the Amiga 2–1
attaching a printer 7–6
attributes, video 4–3
audio connections
  to stereos 2–10
  to monitors 2–11
audio connectors 2–10
  illustration of 2–2
audio equipment
  attaching an Amiga to 2–10
Back Gadget
  for windows 4–21
  for screens 4–28
baud rate, setting 7–5
cables
  attaching to connectors 2–2
  proper cables for add–ons 5–2
  shielded 5–2, 7–18
  warning about 2–3
care of monitors 6–2
caring for the Amiga 6–1
cautions *See* warnings
centering the monitor display 7–4
choosing menu items 4–9
cleaning the mouse 6–3
Cleanup 4–33
CLI
  icon for 7–4
  making the CLI available 7–4
clicking 3–9
Clock 4–33
Close Gadget
  using 4–24
Close 4–24
closing windows 4–24
color printers 5–3
colors
  changing Workbench colors 7–5
  for screens 4–4
Command Line Interface *See* CLI
commands in menus 4–10
composite video *See* NTSC
connecting audio equipment 2–10
connectors 2–2
connectors
  audio 2–2
  care of 6–2
  disk drive 2–2
  keyboard 2–4
  NTSC 2–2
  parallel 2–2
  pin assignments for 7–10
  RGB 2–2
  serial 2–2
  warning about 2–3
controlling the Workbench 4–4
copying disks 4–31
  making backup copies 6–5

creating a project 3–18
cursor keys
  moving Pointer with 3–8
date and time, changing 7–2
diagnostic messages, displaying 4–33
discarding drawers 4–17
discarding projects 4–15
discarding tools 4–15
disk drives
  adding a disk drive 5–3
  using 3–4
disk drive light 3–5
  warnings about 3–5, 6–5
disk gauge 4–25
disks
  as drawers 4–17
  care of 6–5
  copying 4–31
  disk gauge 4–25
  duplicating 3–14, 4–31
  how to insert 3–4
  icons for 4–3
  initializing 4–31
  making backup copies 6–5
  opening 3–13
  operations involving 4–31
  preparing new disks 4–31
  properties of 4–17
  protect tabs on 3–2
  reclaiming disk space 4–25
  removing 3–6
  renaming 4–32
  storage in 4–25
  using 3–2
  working disks 3–14
display
  changing size of text on 7–4
  centering 7–4
Display Centering Gadget 7–4
dot–matrix printers 5–3
double–click
  changing the delay for 7–4
double–clicking
  to open a tool 3–20
Drag Bar
  for windows 4–19
dragging 4–8
dragging screens 4–26
dragging windows 4–20
drawers 4–16
  creating 4–17
  discarding 4–17
  duplicating 4–17
  Empty 4–17
  icons for 4–3
  moving 4–16
  moving to a new disk 4–32
  operations involving 4–16
  renaming 4–17
  Utilities 3–18
Duplicate 4–14
  duplicating drawers with 4–17
duplicating disks 3–14, 4–31
duplicating drawers 4–17
duplicating projects 4–14
duplicating tools 4–14
Empty Trash 4–17
error messages
  displaying 4–33
exit gadgets 4–30
Extended Selection 4–7
external disk drives 5–3
Extras disk 3–2
FCC requirements 5–2, 7–17
Federal Communication Commission *See* FCC
Front Gadget
  for windows 4–19
  for screens 4–27
gadgets
  Back Gadget 4–19, 4–28
  Close Gadget 4–24
  Display Centering Gadget 7–4
  Drag Bar 4–19
  exit 4–30
  for Preferences 3–18
  Front Gadget 4–19, 4–27
  ghost 4–19
  in windows 4–18
  Scroll Bar 4–19
  Sizing Gadget 4–19
  unavailable 4–19
game controller connectors
  pin assignments for 7–15
ghost gadgets 4–19
ghost menu items 4–11
glossary G–1
Graphicraft 3–1
  manual for 1–3

highlighting 3–10
humidity, acceptable range for 7–19
icons
  dragging 4–8
  for Workbench disk 3–6
  highlighted 3–10
  on the Workbench 3–6
  selecting 3–9
  straightening up 4–33
Image (printer setting) 7–9
Info 4–15
Initialize 4–31
initializing disks 4–31
ink–jet printers 5–3
input/output connectors 7–10
interfaces *See also* connectors
  list of 7–19
interference, radio and television 5–2, 7–17
Intuition: The Amiga User Interface 1–3
key repeat speed, changing 7–3
keyboard 2–1
  attaching 2–4
  care of 6–2
  changing the tilt of 2–5
  folding legs on 2–5
  illustration of 2–2
  storing under main unit 2–5
keyboard cable 2–1
  warning about 6–2
  illustration 2–2
Kickstart disk 3–2
  inserting 3–4
Last Error 4–33
Left Margin (printer setting) 7–7
letter–quality printers 5–3
light pen, connector for 7–15
load limit for main unit 6–2
magnets, precautions about 6–2, 6–5
main unit 2–1
  weight it can support 6–2
margins for printing, specifying 7–7
memory
  use in multitasksing 4–14
memory meter 4–28
Menu Bar 3–11
Menu button 3–11
menu shortcut 4–12
menu titles 3–12
menus
  browsing through 3–13
  choosing more than one item 4–12
  commands in 4–10
  ghost items in 4–11
  Menu Bar 3–11
  Multiple Choice 4–12
  options in 4–10
  showing menu titles 4–8
  titles of 3–11
  using 3–11
  using without a mouse 3–14
  unavailable items in 4–11
messages, error
  displaying 4–33
meter, memory 4–28
microdisks *See* disks
MIDI 7–5
modulator, TV 2–9
monitors
  composite video 2–7
  NTSC 2–7
  RGB 2–7
  using a television as a monitor 2–7
  attaching 2–7
  care of 6–2
  centering the display 7–4
  changing size of text displayed on 7–4
  differences between 2–7
  number of characters displayed 2–7
  sound connections for 2–11
mouse 2–1
  attaching 2–6
  buttons 3–9
  care of 6–2
  changing mouse speed 7–3
  cleaning 6–3
  illustration of 2–2
  Menu button on 3–11
  moving the Pointer without a mouse 3–8
  pin assignments for connectors 7–15
  room required for 2–6
  running out of room for the mouse 3–8
  selecting without a mouse 3–10
  Selection button on 3–9
  using the Amiga without a mouse 4–13
mouse ball 2–6, 6–3
mouse buttons
  clicking 3–9

mouse connectors
  pin assingments for 7–15
mouseless operation 4–13
  selecting 3–10
moving drawers 4–16
  to a new disk 4–32
moving projects 4–16
  to a new disk 4–32
moving screens to the back 4–28
moving tools 4–16
  to a new disk 4–32
moving windows to the front 4–21
Multiple Choice 4–12
multitasking 4–14
Musical Instrument Digital Interface 7–5
Notepad
  introduction to 3–18
NTSC connector 2–9
  on televisions 2–7
NTSC monitors
  connecting 2–9
  text size on 7–4
on/off switch 3–3
Open 3–18
opening disks 3–13
opening projects 4–14
opening tools 3–18, 4–14
  by double–clicking the Selection button 3–20
operating temperature 6–2
operations involving disks 4–31
options, menu 4–10
Paper Size (printer setting) 7–7
Paper Type (printer setting) 7–7
parallel connector
  pin assignments for 7–13
pin assignments for connectors 7–10
Pitch (printer setting) 7–8
pixels
  number of in screens 4–3
Plug 'n Print Cartridge 5–3
plugging in the Amiga 2–13
Pointer
  changing Pointer speed 7–3
  moving 3–7, 4–5
  moving without a mouse 3–8
  point of 4–5
  Wait Pointer 4–6
pointing 3–7, 4–5
ports *See* connectors
power cord
  illustration of 2–2
power, requirements for 7–19
precautions *See* warnings
precautions for add–ons 5–2
Preferences 7–2
  getting back settings 7–10
  introduction to 3–17
  saving settings 7–10
  settings for 7–2
  using settings 7–10
preparing disks for use 4–31
Printer Graphics Requester 7–8
Printer Requester 7–6
printers
  adding 7–6
  attaching 7–6
  installing 7–6
  list of supported printers 5–3
  Preferences settings for 7–6
  properties of 3–18
  specifying parallel or serial 7–7
projects
  creating 3–18
  discarding 4–15
  duplicating 4–14
  getting information about 4–15
  moving 4–16
  moving to a new disk 4–32
  opening 4–14
  renaming 4–15
  reopening a project 3–21
  saving 3–21
protect tabs 3–2
protecting disks 3–2
pushing windows to the back 4–21
pushing screens to the back 4–28
putting together the Amiga 2–1
Quality (printer setting) 7–7
radio and television interference 5–2
RAM
  adding RAM to the Amiga 5–2
  meter for available RAM 4–28
random–access memory *See* RAM
RGB monitor
  attaching 2–8
reclaiming disk space 4–25
Redraw 4–33
redrawing the Workbench 4–33
removing disks 3–6
  warning about 3–5
Rename 4–14
  renaming drawers with 4–17
renaming disks 4–32
renaming drawers 4–17
renaming projects 4–15
renaming tools 4–15

requester
operations involving 4–29
properties of 3–15, 4–29
responding to 4–30
resetting the Workbench 4–32
resolution, screen 4–4
RGB connector
pin assignments for 7–14
RGB monitors
description of 2–7
text size on 7–4
Right Margin (printer setting) 7–7
screens
attributes of 4–4
changing colors in the Workbench screen 7–5
dragging 4–26
moving in front 4–27
movings 4–26
operations involving 4–25
properties of 4–25
redrawing 4–33
Scroll Arrow 4–22
Scroll Bar
for windows 4–22
Scroll Box 4–22
scrolling windows 4–22
selected window 4–18
selecting
Extended Selection 4–7
icons 3–9
selecting more than one icon 4–7
with the mouse 4–6
without a mouse 3–10
Selection button
selecting with 3–9
selection shortcuts 4–12
for Workbench screen 4–28
serial connector
illustration of 2–2
serial port
setting the baud rate 7–5
Service Centers 6–2
setting the date and time 7–2
settings, Preferences 3–17
settings for printers 7–6
Shade (printer setting) 7–9
shielded cables for add-ons 5–2
SHIFT key
for Extended Selection 4–7
shortcuts
for Workbench screen 4–28
menu 4–12
selection 4–12
size of text, changing 7–4
Sizing Gadget 4–20
sizing windows 4–20
Spacing (printer setting) 7–8
specifications for the Amiga 7–18
stereo, connecting an Amiga to 2–10
straightening up icons 4–33
sunlight, precautions about 6–2
switch box, TV 2–9
television
attaching to an Amiga 2–9
NTSC connectors on 2–7
using as a monitor 2–7
television interference 5–2, 7–17
temperature, operating 6–2
text
changing size of on the display 7–4
Textcraft 1–3
Threshold (printer setting) 7–9
tilt, keyboard 2–5
time
changing 7–2
showing 4–33
Title Bar
messages displayed in 4–33
tools
using 3–17
Clock 4–33
demonstration tools 4–33
discarding 4–15
duplicating 4–14
getting information about 4–15
Graphicraft 3–1
icons for 4–3
moving 4–16
moving to a new disk 4–32
opening 4–14
renaming 4–15
Trashcan
as a drawer 4–17
discarding drawers using 4–17
emptying 4–17
getting items out 4–15
icon for 4–3
properties of 4–17
turning on the Amiga 3–3
TV modulator
attaching a television with 2–9
TV Modulator connector
pin assignments for 7–15
TV switch box
attaching a television with 2–9
unavailable menu items 4–11
using a tool 3–17
using disks 3–2
using menus 3–11
using the Workbench 4–1

ventilation slots 2–13
video attributes 4–3
video cable
  attaching RGB monitor with 2–8
video monitor *See* monitor
Wait Pointer 4–6
warnings
  about add-ons 5–2
  about assembling the Amiga 2–3
  about cables 6–2
  about connectors 7–11
  about copying disks 4–32
  about initializing disks 4–31
  about magnets 6–2, 6–5
  about moisture 6–1
  about removing disks 3–5
  about resetting 4–32
  about sunlight 6–2
  about the case 6–2
  about the keyboard 6–2
  about turning on the Amiga 3–3
warranty information 2–1
windows
  closing 4–24
  components of 4–3
  dragging 4–20
  for tools 3–17
  gadgets in 4–18
  moving to the front 4–21
  opening 3–13
  operations involving 4–18
  overlapping 4–18
  properties of 4–18
  pushing to the back 4–21
  scrolling 4–22
  selecting 4–18
  sizing 4–20
Workbench
  changing the colors 7–5
  control techniques 4–4
  illustration of 3–6
  redrawing the screen 4–33
  resetting 4–32
  title bar for 3–6
  using 4–1
Workbench disk 3–2
  inserting 3–6
Workbench operations 4–13
Workbench screen 4–2
  shortcuts for 4–28
Workbench tools 4–33
working disks 3–14
Y adapter 2–11

commodore

Commodore Business Machines, Inc.
1200 Wilson Drive, West Chester, PA 19380

Commodore Business Machines, Limited
3370 Pharmacy Avenue, Agincourt, Ontario, M1W 2K4

Copyright 1985 Commodore–Amiga, Inc.